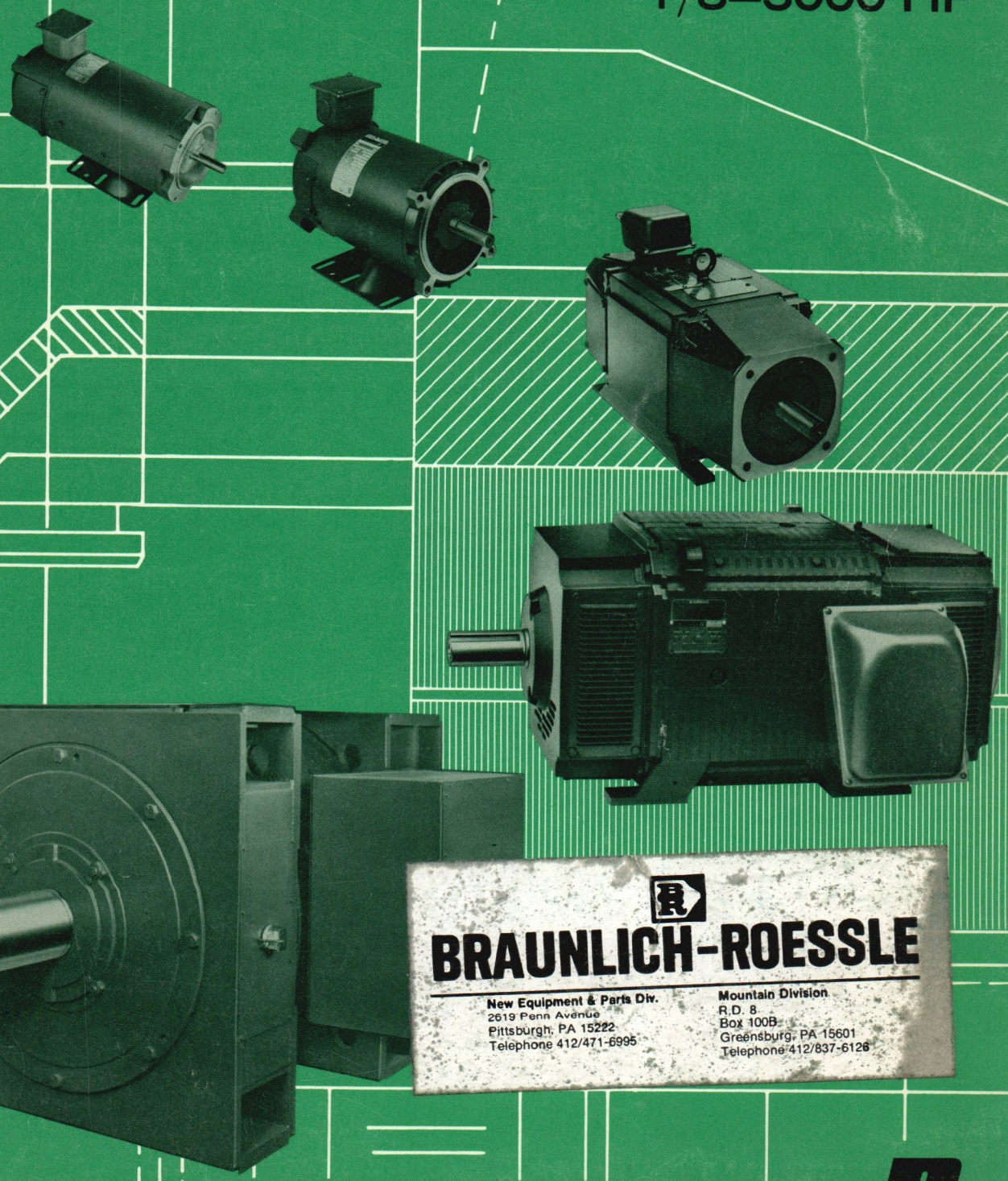
1983-1984

D-C MOTOR CATALOG

1/8–3000 HP



BRAUNLICH-ROESSLE

New Equipment & Parts Div.
2619 Penn Avenue
Pittsburgh, PA 15222
Telephone 412/471-6995

Mountain Division
R.D. 8
Box 100B
Greensburg, PA 15601
Telephone 412/837-6126

RELIANCE ELECTRIC

RELIANCE ELECTRIC

This catalog contains complete information on Reliance Electric Small Horsepower and Integral Horsepower D-C motors for industrial applications. The Small Motor section includes 56 and 160 frames with horsepower ratings from 1/8 thru 3 hp. The Integral Horsepower Section includes DB180ATZ through B1600AT frames with horsepower ratings from 1 through 3000 hp.

Each section includes GENERAL INFORMATION, PRICING, MODIFICATIONS, APPLICATION DATA and DIMENSIONS. GENERAL INFORMATION gives basic data on standard motor features and operating conditions applicable to the standard motor. The PRICING pages present list prices and frame sizes for the commonly encountered enclosures. List prices and description of standard modifications applicable to the basic motor are found in MODIFICATIONS. General application information and engineering estimating data on motor parameters is included in APPLICATION DATA. Estimating dimensions for the more common types of enclosures and modifications are included in the DIMENSION pages.

In addition to the standard industrial line of D-C motors described in this catalog, Reliance Electric builds many special D-C machines for application in commercial and industrial applications. A few of these special motors and generators are shown on the back cover of this catalog. The Reliance Rotating Machinery Group also includes Kato Engineering for the highest quality brushless synchronous generators.

Reliance Electric has a complete line of A-C motors through 20,000 hp. Complete information on A-C motors as well as additional information on D-C motors is available from your Reliance Electric Distributor or Sales Engineer.

Trademarks: Reliance, SUPER RPM and PLS are Trademarks of Reliance Electric Company.

IMPORTANT NOTICE

Prices and specifications in this catalog are subject to change without notice. Certified prints will be furnished on request. Weights are shown in pounds and should be considered approximate. Performance data are typical data listed for reference only.

This catalog is not intended to provide operational instructions. Appropriate Reliance Electric instruction manuals and warning tags attached to the apparatus should be read carefully prior to installation, operation and/or maintenance of equipment.

© 1983, Reliance Electric

Reliance Electric General Offices
24701 Euclid Ave., Cleveland, OH 44117

TABLE OF CONTENTS

RELIANCE ELECTRIC

SMALL D-C MOTORS

pg.C-

GENERAL INFORMATION 2

PRICING

WOUND FIELD

Rolled Steel (56 Frame) 3
Laminated (DB160 Frame) 3
Explosion Proof (56 Frame) 4

PERMANENT MAGNET 5

MODIFICATIONS 6-10

Altitude 6
Ambient 6
Balance 6
Bases 7
Bearings 7
Brakes 7
Conduit Boxes 7
Enclosures 8
Endshields 8
Grease 8
Insulation 8
Leads 9
Location 9
Shafts 9
Software 10
Tachometers 10
Thermostats 10
Voltage 10
Windings 10

APPLICATION DATA 11-12

General 11
Electrical 11
Mechanical 11
Typical Operation Characteristics 12

DIMENSIONS 13-19

Wound Field 13-15
Permanent Magnet 16-19

SUPER RPM D-C MOTORS— INTEGRAL HP.

Index pg.C-

GENERAL INFORMATION 20

Standard Motor Features 21-25

PRICING 27

MODIFICATIONS 41

APPLICATION DATA 56

DIMENSIONS 73

LITERATURE INDEX ..... Inside Back Cover

SPECIAL D-C MOTORS ..... Back Cover

GENERAL INFORMATION

Reliance Electric Small D-C Motors are based on over 75 years of engineering and industry application experience; they are designed to operate from either solid state rectified power or battery supplied power. When used with solid state power matched drives:

TENV Totally enclosed non-ventilated motors provide continuous full load torque from base speed down to 5% of base speed (20 to 1 speed range).

TEFC Totally enclosed fan cooled motors provide continuous full load torque from base speed tapering to 75% torque at 5% of base speed.

PROT Protected motors provide continuous full load torque down to 60% of base speed, tapering to 70% torque at 5% of base speed.

Other general features of the Small D-C motor line:

- Brush inspection openings on 56 and DB160 frames (except explosion-proof) — simplifying brush inspection and replacement while decreasing downtime.
- Double shielded ball bearings which are pre-lubricated — providing long life and minimal maintenance.
- Top mounted conduit box with 4 to 6 inch leads — for easy access and installation convenience.

APPLICATION

The wound field 56 frame, laminated DB160 and permanent magnet D-C motors are ideal for applications where constant or variable speed control is required. In material handling and process industries, D-C motors are often used in conjuction with a rectified controller in driving pumps, fans, conveyors, and machine tools. Modifications including thermostats and a standard NEMA C-Face are two of the features that make the Small D-C Motor line flexible in a wide range of applications. A NEMA sized C-Face allows versatility in applications by using such stock items as Reliance Electric Unibrakes, Reducers and Tachometers — including the RE045 and RE020.

FEATURES

I. WOUND FIELD

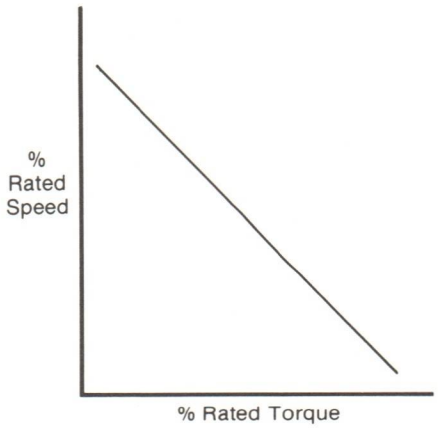
WOUND FIELD — EXPLOSION PROOF (56 Frame Only)

- Good speed regulation over wide load ranges with a constant speed/torque range — for flexibility in variable speed applications
- SXT features, including cast iron end shields, gasketed conduit box, and epoxy treated armature—to offer more protection in corrosive environments.
- XP enclosures for Class I, Group D and Class II, Group F and G are UL approved. XP motors are rated for full load torque down to 60% base speed. For full load torque down to 5% base speed, contact Reliance Electric.

II. PERMANENT MAGNET

- Precise linear speed/torque characteristics over a wide speed range — providing smoother, more controllable operation. (Figure 1)
- Permanent magnet fields eliminate the need for a field power supply — simplifying connection installation and reducing electrical maintenance costs.

  NOTE: Applications requiring unusually high currents — i.e., across the line starts or plug reversing and continuous duty applications should be reviewed; contact Reliance Electric.



III. LAMINATED DB160

- Laminated square frame to minimize eddy currents — providing improved commutation and **longer brush life** — requiring less maintenance and its associated downtime.
- Space saving square frame construction — offering design flexibility with maximum horsepower.

From the wound field 56 frame to the laminated DB160 to the permanent magnet, Reliance Electric has the broadest offering of high quality Small D-C Motors for stock and production orders.

WOUND FIELD

ROLLED STEEL
1/8—1-1/2 HP

PROTECTED • TOTALLY ENCLOSED

HP	RPM	Protected		TENV		TEFC	
		Frame	List	Frame	List	Frame	List
1/8	3450	BG56H	$442	FR56	$448	FR56	$446
1/6	2500	BG56H	426	FR56	428	FR56	446
	1725	BG56H	402	FR56	408	FR56	426
	1140	BG56H	426	FR56	450	FR56	468
1/4	3450	BG56H	450	FR56	456	FR56	474
	2500	BG56H	430	FR56	436	FR56	454
	1725	BG56H	406	FR56	412	FR56	430
	1140	BG56H	522	FB56	546	FR56	564
1/3	3450	BG56H	470	FR56	476	FR56	494
	2500	BG56H	450	FR56	456	FR56	474
	1725	BG56H	452	FR56	456	FR56	476
	1140	BG56H	646	FY56H	670	FY56H	688
1/2	3450	BG56H	522	FB56	528	FR56	546
	2500	BG56H	490	FB56	496	FA56	514
	1725	BG56H	538	FB56	544	FB56	562
	1140	BJ56H	778	—	—	FD56H	802
3/4	3450	BG56H	582	FB56	588	FB56	606
	2500	BG56H	582	FY56H	588	FY56H	606
	1725	BJ56H①	620	FD56H①	704	FY56H①	644
1	3500	BG56H①	766	FD56H①	776	FY56H①	790
	2500	BJ56H①	766	FD56H①	776	FD56H①	790
	1750	BE56H①	710	—	—	FD56H①	734
1-1/2	3500	BE56H①	948	—	—	FD56H①	994
	2500	BE56H①	948	—	—	FD56H①	994
	1750	BF56H①③	894	—	—	FF56H①③	934

① 180V Armature 100/200 V. Field
② For 180V Armature 100/200 V. Field **Add $12**
③ Extruded Aluminum Frame
④ Add per Modification Section for C-Face

LAMINATED FRAME
1-1/2—3 HP

PROTECTED • TOTALLY ENCLOSED

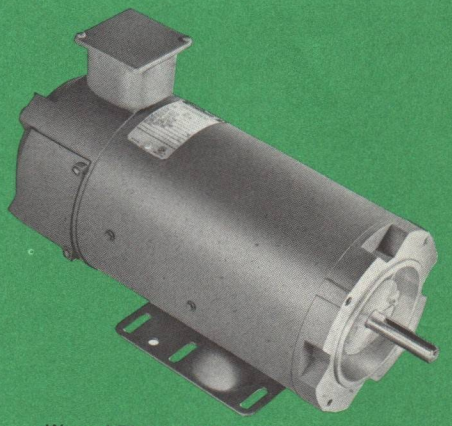
HP	Base Speed	Protected		TENV	
		Frame	List	Frame	List
1-1/2	3500	DB168	$1634	DB169	$1866
	2500	DB168	1360	DB169	1544
	1750	DB168	1400	DB1610①	1530
	1150	DB169	1506	N/A	—
2	3500	DB168	1634	DB1610	1894
	2500	DB168	1400	DB1611	1696
	1750	DB169	1500	DB1611①	1750
	1150	DB1610	1766	N/A	—
3	3500	DB169	1834	N/A	—
	2500	DB1610	1450	N/A	—
	1750	DB1611	1750	N/A	—

① 180V armature, 100V field only or 200V field only

RELIANCE ELECTRIC

SMALL D-C MOTORS

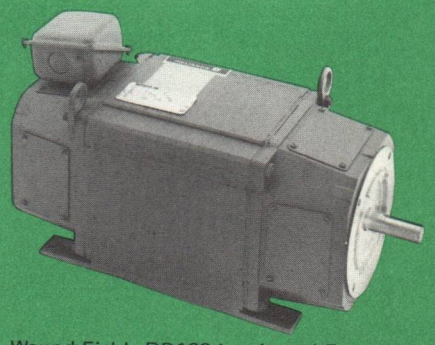
FEATURES
- ADJUSTABLE SPEED
- CONTINUOUS DUTY
- RIGID MOUNT ④
- CLASS F INSULATION
- 90V. ARMATURE 50/100 V. FIELD ②
- 40° C AMBIENT
- FOR OPERATING FROM FULL WAVE 1Ø RECTIFIED POWER



Wound Field—56 Frame.

DIMENSION SHEETS

Rigid Mount	
Prot, TENV	610302-108
TEFC	610301-123
Rigid Mount with C-Face	
Prot, TENV	610302-104
TEFC	610301-122



Wound Field—DB160 Laminated Frame.

FEATURES
- ADJUSTABLE SPEED
- 180V. ARMATURE 100/200 V. FIELD
- CLASS F INSULATION
- 40° C AMBIENT
- LAMINATED FRAME
- RIGID BASE
- FOR OPERATING FROM FULL WAVE SINGLE PHASE RECTIFIED POWER

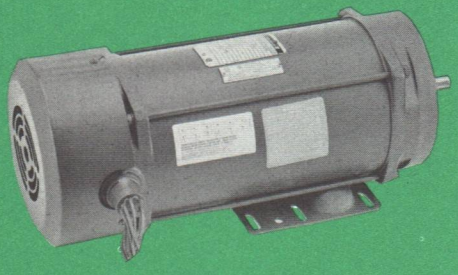
RELIANCE ELECTRIC

SMALL D-C MOTORS

WOUND FIELD

FEATURES

- ADJUSTABLE SPEED
- 90 V. ARMATURE 50/100 V. FIELD ③
- CLASS F INSULATION
- 40° C AMBIENT
- EXPLOSION PROOF ①
- FOR OPERATING FROM FULL WAVE 1Ø RECTIFIED POWER



Wound Field—Explosion Proof.

EXPLOSION PROOF
1/4—1 HP

TOTALLY ENCLOSED • NON-VENTILATED, FAN COOLED

HP	RPM	Enclosure	Frame	List
1/4	3500	TENV-XP	P56H	$ 984
	2500	TENV-XP	R56H	972
	1750	TENV-XP	R56H	964
	1150	TENV-XP	T56H	1172
1/3	3500	TENV-XP	R56H	1008
	2500	TENV-XP	T56H	1000
	1750	TENV-XP	T56H	1000
	1150	TEFC-XP	U56H	1304
1/2	3500	TENV-XP	T56H	1276
	2500	TEFC-XP	R56H	1276
	1750	TEFC-XP	T56H	1372
	1150	TEFC-XP	W56H	1452
3/4	3500	TEFC-XP	T56H	1372
	2500	TEFC-XP	U56H	1452
	1750	TEFC-XP	U56H	1628
1	3500②	TEFC-XP	U56H	1480
	2500②	TEFC-XP	W56H	1640
	1750②	TEFC-XP	W56H	1872

① Approved and labeled by U. L. and C. S. A. for Class I Group D and Class II Group F and G atmospheres. Price includes 2 Thermostats per U. L. Standard

② 180 V. Armature 100/200 V. Field

③ Explosion-proof Permanent Magnet Design is not available.

PERMANENT MAGNET

ROLLED STEEL
1/8—2 HP

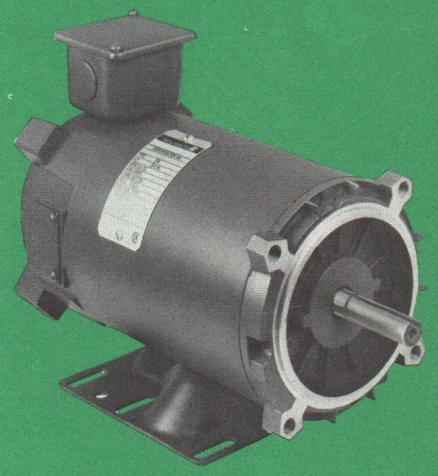
TOTALLY ENCLOSED • NON-VENTILATED, FAN COOLED

HP	Base Speed	TENV 90 VDC ①		TEFC 180 VDC ②	
		Frame	List	Frame	List
1/8	3450	EA56	$ 420	—	—
	2500	EA56	400	—	—
	1725	EA56	380	—	—
	1140	EA56	400	—	—
1/6	3450	EA56	420	—	—
	2500	EA56	400	—	—
	1750	EA56	380	—	—
	1140	EA56	400	—	—
1/4	3450	EA56	460	—	—
	2500	EA56	400	—	—
	1725	EA56	380	—	—
	1140	EA56	480	—	—
1/3	3450	EA56	480	—	—
	2500	EA56	400	—	—
	1725	EA56	400	—	—
	1140	EC56	520	—	—
1/2	3450	EC56	510	—	—
	2500	EC56	460	—	—
	1725	EC56	470	—	—
	1140	EE56	670	—	—
3/4	3450	EE56	550	—	—
	2500	EE56	530	—	—
	1725	EF56	550	—	—
	1140	FZ56H③⑤	1140	FC56H⑤	$1060
1	3500	FC56H③⑤	900	EE56	758
	2500	FC56H③⑤	968	EE56	758
	1750	FZ56H③⑤	968	EF56	670
	1150	FF56H③⑤	1200	FZ56H⑤	1100
1 1/2	3500	FZ56H③⑤	1008	FC56H⑤	948
	2500	FF56H③⑤	1080	FZ56H⑤	948
	1750	FF56H③⑤	1100	FZ56H⑤	968
2	3500	—	—	FZ56H⑤	1080
	2500	—	—	FF56H⑤	1080
	1750	—	—	FF56H⑤	1100

① For 180 VDC **Add $12**
② For 90 VDC **Add $12**
③ 180 VDC is standard; for 90 VDC **Add $12**
④ Add per modifications section for Foot Mount; STD C-Face included in list price
⑤ Rigid Mount; add per modification section for C-Face

FEATURES

- ADJUSTABLE SPEED
- PERMANENT MAGNET FIELD
- CLASS F INSULATION
- ROUND BODY ④
- 40° C AMBIENT
- FOR OPERATING FROM FULL WAVE 10 RECTIFIED POWER



Permanent Magnet.

MODIFICATIONS

INSTRUCTIONS FOR THE USE OF THESE MODIFICATIONS

These modifications and price additions apply to D-C motors only, frames 56 and DB160. Not all combinations of ratings and frames are available with listed modifications. Refer to the Pricing Section for confirmation.

For the rating required, select the basic motor price from the appropriate motor price page. Add for the required modification or accessory in accordance with the following listings. Percentage price additions are made to the base price. Each addition is calculated to the nearest five cents ($.05). Fixed price additions are added next. The quantity lot price additions are based on the number of identical motors on a single order for shipment within the time period indicated in the discount policy.

Frame sizes, operating characteristics, etc. for modified motors may be different from standard listed motors.

ALTITUDE

All 56 and DB160 frames electric motors are suitable for operation at altitude up to 3,300 ft/1,000 m above sea level, at a maximum ambient of up to 40° C. Satisfactory operation can also be obtained at higher altitudes and lower ambient temperatures as shown below:

30° C ambient to a maximum altitude of 6,600 ft/2,000 m above sea level.
20° C ambient to a maximum altitude of 9,900 ft/3,000 m above sea level.

Motors having a service factor of 1.15 will operate satisfactorily at 1.0 service factor up to a maximum altitude of 9,900 ft/3,000 m above sea level.

Addition of one of the following modifications provides:

Suitable for operation at an altitude above 3,300 ft/1,000 m above sea level and below 6,600 ft/2,000 m. 40° C AMB.

1-4	5-9	10-99	100-499	500 & up
Not Available	40%	20% of Motor Basic		

Suitable for operation at an altitude above 6,600 ft/2,000 m above sea level and below 9,900 ft/3,000 m. 40° C AMB.

1-4	5-9	10-99	100-499	500 & up
Not Available	60%	30% of Motor Basic		

Price added includes proper nameplate stamping and special high altitude brushes.

AMBIENT

A standard machine is designed so that the temperature rise produced within it, added to the standard 40° C ambient, will not exceed the winding-insulation temperature limit.

If the ambient temperature is other than 40 deg. C, the addition of one of the following provides:

High ambient designs not available on explosion proof motors without complete engineering investigation.

Ambient	1-4	5-9	10-99	100-499	500 & Up
−40 deg. C ambient temperature (Includes low temp. lubricant)	Not Available	$200	$40	$18	$ 8
50 deg. C ambient temperature		$200	$60	$28	$20
65 deg. C ambient temperature		$200	$70	$60	$40

BALANCE

Reliance Electric motors meet the dynamic limits of applicable NEMA standards for maximum amplitude (peak-to-peak displacement) in inches at their highest rated speeds. These limits are for motors only, without mounting accessories such as blowers, tachs, brake wheels, sheaves, etc. Standard values of amplitude (max.) are listed below:

Commerical Balance, max. amplitude for 3000-4000 rpm motor .0010 in.
Commercial Balance, max. amplitude for 1500-2999 rpm motor .0015 in.
Commercial Balance, max. amplitude for 1000-1499 rpm motor .0020 in.

BALANCE, LABORATORY

This modification provides for a lower amplitude than the standard balance.

Special Balance, max. amplitude of .0005 in.

1-4	5-9	10-99	100-499	500 & up
Not Available	$100	$40	$24	$20

NOTE: Not available on the DB160 Frame D-C Motor.

MODIFICATIONS

BASES①

A rigid base is standard on the 56 and DB160 frame D-C motors. Bolt on base construction is available on 5.5 diameter PM motor only.

Bolt On Base Construction — PM motor only 5.5 dia. Kit No. K56H3000. Add for base .....

The resilient base is not available on the 56 and DB160 frame D-C motors.

① Not good for wall or ceiling mounting.

1-4	5-9	10-99	100-499	500 & Up
Not Available	$9	$9	$9	$9

BEARINGS (Double Sealed)

Standard bearings used on 56 and DB160 frame D-C motors are double shielded bearings. To replace double shielded bearings with double sealed bearings of equal life, add the following:

1-4	5-9	10-99	100-499	500 & Up
Not Available		$20	$10	$4

BRAKES (disc)

A-C BRAKES

All brakes are A-C spring set electrically released disc brakes of current design manufactured by Reliance Electric or Stearns Electric Corporation, or by Dings Brakes Inc. Reliance Electric Unibrakes will be considered the standard offering.

Rating	1-4	Standard Enclosure		SXT/Dust Tight Water Proof Enclosure		Explosion Proof Enclosure Class I Group D Glass II Groups F & G	
		5 & Above		5 & Above		5 & Above	
		Unibrake	Stearns/Dings	SXT Unibrake	Stearns/Dings DTWP	Unibrake	Stearns/Dings
1½ ft./lb.	Not Available	$332	$436	$472	$624	$1100	$1506
3		332	436	472	624	1100	1536
6		376	456	516	696	1200	1626
10		440	488	580	740	1300	1752
15		504	548	644	840	1400	1798

These brake adders include a dual voltage coil. For special voltage applications, refer to the Voltage Modification on page 10.

D-C BRAKES

D-C Unibrakes may be operated in any position without modification. Add the brake prices below to the motor price of the required hp. speed and enclosure. For explosion-proof brakes, consult Reliance Electric D-C Products Group. These brakes are supplied 115 or 230 volt DC standard. Special DC voltages available 6/12, 36, 24/48, 90. Add $40.00 per motor.

N/A — Not Available.

Rating	1-4	Standard Enclosure		SXT/Dust Tight Waterproof Enclosure	
		5 & Above		5 & Above	
		Unibrake	Stearns/Dings	SXT Unibrake	DTWP Stearns/dings
1½ ft./lb.	Not Available	N/A	$600	N/A	$1000
2		$396	N/A	$536	N/A
3		N/A	$600	N/A	$1000
4		$464	N/A	$604	N/A
6		$600	$640	$740	$1040
10		N/A	$680	N/A	$1080
15		N/A	$740	N/A	$1140

CONDUIT BOXES

Pressed steel conduit boxes are suppiled as standard on SMALL D-C MOTORS.

Cast Iron Oversize Split Conduit Box	
1-4	10 & Up
Supply Stock Kit #14G3535 $56 RSM11	$56

Explosion Proof Conduit Box Added To XP Motors②	
1-9	10 & Up
Supply Stock Kit #K56G3230 $36 RSM11	$36

② Not Available on DB160 Frames, or on Permanent Magnet Designs.

MODIFICATIONS

ENCLOSURES SXT (Only 56 Frame Wound Field Motors)

APPLICATION:

SXT motors are specially constructed to withstand the corrosive atmospheres of chemical plants, oil refineries, paper mills and other corrosive environments. Typical applications include pumps, mixers, blowers, fans or motors used in salt laden, wet or humid locations. SXT motors are also constructed for certain wash down applications.

Add the following to the basic TENV or TEFC list price.

1-4	5-9	10-99	100 & Up
Not Available	$200	$112	$100

NOTE: Not available on DB 160 frames or Permanent Magnet designs.

SXT FEATURES

- **Base** — Standard Welded
- **Bearings** — Double Shielded
- **Cast Iron Conduit Box** — Field Mounting Kit Available
- **Conduit Box** (TEFC only) — Treated Steel with Gasket (¼ NPT Lead Hole on TENV)
- **Drain/Breather** — Stainless Steel T-Drain
- **End Shields** — Cast Iron
- **End Shield Fits** — Permatex Non Hardening)
- **Fan** — Corrosion Resistant (Polypropylene)
- **Fan Cover** — Treated Steel
- **Finish** — Primer; all Internal and External Metal Parts Coated with Epoxy EPON Polyamid Primer, Finish Coat, Standard Blue Green Enamel, USDA Accepted Paint.
- **Frame** — Treated rolled Steel
- **Grease Holes** — Pipe Plugs
- **Hardware** — Heavy Duty Zinc Plated
- **Insulation** — Special Non Hydroscropic with Extra Dip and Bake
- **Nameplate** — Stainless Steel (Stamped SXT)
- **Armature** — Epoxy Primer Treated
- **Shaft** — No. 416 Stainless Steel
- **Shaft Seal** — Lip Type (Both Ends, TEFC)
- **Thru Bolt Washers** — Copper

ENDSHIELDS

Add the following to the basic protected or totally enclosed rigid mount list price.

NOTE: DB160 frame motors have a standard 140C Face die cast aluminum back endshield.

Modifications		1-4	5-9	10 & Up
Standard Die Cast Aluminum	Footless 140C & 56C Face	Not Available	$20	$10
	140C & 56C Face with Feet		$24	$14
Cast Iron ① 56C Face	Footless 56C Face		$50	$30
	56C Face with Feet		$54	$34
Cast Iron ① 48C Face	Footless 48C Face		$50	$30
	48C Face with Feet		$54	$34

① Not available on DB 160 frames.

GREASE (Lubrication)

The bearings of Class B, F and H insulated motors are normally lubricated with Chevron SR1-2 grease, which has a temperature range of −20 to +350° F.

Special grease can be specified. Use the following option:

Aeroshell #7 low temperature petroleum lubricant with temperature range of −100° F to +250° F.

1-4	5-9	10-99	100-499	500 & Up
Not Available	$50	$20	$8	$4

INSULATION

Normally small D-C motors have class F insulation as standard.

Special environmental conditions may require the addition of a special insulation. Use the following modification.

NOTE: Class H insulation is not available on Explosion Proof Motors.

Condition	Class	1-4	5-9	10-99	100-499	500 & Up
Standard, High Ambient or Service Factor	H	Not Available	$200	$ 90	$ 80	$60
High Moisture	FG			$ 80	$ 70	$50
Acid, Alai, Abrasive	FE			$120	$100	$80
Tropical Anti-fungus	FJ			$ 90	$ 80	$60

MODIFICATIONS

LEADS

For special length, location or material on leads supplied on small D-C motors, use the following modification. (Must be approved by Reliance Electric).

1-9	10-99	100-499	500 & Up
Not Available	$20	$16	$10

LOCATION OF FEATURES

For locating any standard D-C motor feature such as a base, conduit box, or nameplate in a position on the motor other than standard, use the following modification. (Must be approved by Reliance Electric).

1-9	10-99	100-499	500 & Up
Not Available	$30	$20	$16

SHAFTS

PRICING OF SHAFT MODIFICATIONS

1. Select desired special shaft extension price from Table 2.
2. Add to this price, the required modification price from Table 3.
3. For standard double shaft extension use Table 1.

NOTE: All modifications to shafts from Table 3 require a special shaft extension adder from Table 2.

RELIANCE STANDARD DIAMETER AND LENGTH

56 Frames		Diam.	Length (NEMA)
Below 1½ HP	Rigid	.625	1.94 (N Dim.)
	C-Face	.625	2.06 (AH Dim.)
1½ HP and Above	Rigid	.875	2.31 (N Dim.)
	C-Face	.875	2.12 (AH Dim.)

DB 160 frames		Diam.	Length (NEMA)
All HP	Rigid	.875	1.875 (N Dim.)
	C-Face	.875	2.12 (AH Dim.)

TABLE 1

Double Shaft Extension Standard Length and Diameter	1-4	5-9	10-99	100-499	500 & Up
	Not Available	$100	$40	$20	$10

TABLE 2

Special Shaft Extension, Standard Dia. or Smaller; One End	1-4	5-9	10-99	100-499	500 & Up
Not Longer Than Standard	Not Available	$200	$ 30	$20	$10
Up to 2" Longer Than Std.			40	26	16
Up to 5" Longer Than Std.			50	30	20
Up to 10" Longer Than Std.			60	40	30
Up to 15" Longer Than Std.			100	80	70

TABLE 3

Modification to Shaft Add to Special Shaft Charge Above	1-4	5-9	10-99	100-499	500 & Up
Non Standard Double Shaft	Not Available	$100	$10	$ 6	$ 4
Stainless Steel 416 Series Stainless Steel 300 Series			20 50	8 40	4 30
Threads			10	8	4
Special Keyway/Flat			8	6	4
Drill/Tap (Each Hole)			8	6	4
Step (Diameter)			8	6	4
Oversize Dia.			60	50	40

MODIFICATIONS

SOFTWARE

Data	Qty. Available Without Charge to One Customer Address	Add'l Quantity	Amount Net Price Each
Standard Installation. Operation and Maintenance Manuals	1 per order	Ea	$1.00
Renewal Parts Listing and Recommended Spare Parts	5 per order request through RGA	10	3.00
Standard Tabulated Outline Dimension Sheets—Certified	1 paper reproducible per order	Ea	1.00
Non-Standard Tabulated Outline Dimension Sheets for Special Construction or Accessories	**$25** net one time charge thereafter 1 paper reproducible per order at no charge	Ea	1.00
Standard Wiring Diagram	1 per order	Ea	1.00
Typical Performance Data Sheets—Stock or Model Number Motors and Prototypes	1 per order①	Ea	1.00
Typical Performance Data Sheets—Non Standard or Non Model Number Motors	**$25** net one time charge thereafter 1 paper reproducible per order at no charge①	Ea	1.00

① Performance curves are not available as standard. Contact Reliance Electric for availability and charge.
NOTE: Discount does not apply to Software data.

TACHOMETER GENERATORS

MOUNTING

Includes generator, adaptor, coupling, shaft extension and mounting.

Motor Enclosure		RE045 45V ac/1000 rpm	5PY59J 50 or 100V dc/1000 rpm	RE020 20V dc/1000 rpm
Lots	1-9	10 & Up	10 & Up	10 & Up
OPEN	Not Available	$540	$1520	$700
TENV		540	1520	700
TEFC		580	1520	740

1. Explosion-proof tachometers are not available on 56 and DB160 frames—mount separately.
2. For availability to other tachometers consult Reliance Electric.

PROVISIONS

Provisions for tachometer generator includes drilling, tapping, associated mounting hardware, stub shaft or shaft extension, C-face adaptor, coupling, less tachometer as required.

Motor Enclosure		RE045 45V ac/1000 rpm	5PY59J 50 or 100V dc/1000 rpm	RE020 20V dc/1000 rpm
Lots	1-9	10 & Up	10 & Up	10 & Up
OPEN	Not Available	$116	$264	$ 72
TENV		116	264	72
TEFC		156	264	112

THERMOSTATS

Addition includes one temperature sensing thermostat per motor. Thermostats are automatic reset with normally open or normally closed contacts.
NOTE: On explosion-proof motor UL listing requires two thermostats. They are included in the price of the motor.

Thermostat Type	1-4	5-9	10 & Up
Normally open or Normally closed Thermostat	Not Available	$40	$20

VOLTAGE

Standard D-C voltages are defined as follows: 90 and 180 volts.
For special voltages previously approved by Reliance Electric, use the following modifications.
NOTE: The 90 volt DB160 ratings must be reviewed by Reliance Electric.

1-9	10 & Up
Not Available	Add 10% to Motor Basic

WINDINGS

For compound or series wound motors, add 10% to the price of the shunt wound motor of the same rating.

1-9	10 & Up
Not Availbale	Add 10% to Motor Basic

APPLICATION DATA

GENERAL

Type Designation

Small D-C and rectified power SUPER RPM designs are identified with the various electrical designs:

Type Electrical Design	Type Electrical Design
T Rotating, straight d-c TR Rectified power	TP Permanent magnet, straight d-c TPR Permanent magnet, rectified power

Application

Small D-C motors are designed for use in industrial and commercial applications such as the following typical industries:

1. Business machines
2. Material handling—conveyors
3. Pumps and blowers
4. Machine tools
5. Systems and gear drives
6. Elevator door operators
7. Adjustable speed drives
8. Agitators and mixers

Approvals, Listings

Explosion-proof motors meet Underwriters' requirement for hazardous atmospheres. Standard enclosures have Canadian Standards Association listing.

ELECTRICAL DATA

Voltage Ratings

The following voltages are considered standard with Reliance Electric.

	Arm. Volts	Field Volts
Rotating D-C	115 230	115 230
Rectified Power Full Wave	90 180	50,100 100,200

MAXIMUM VOLTAGE is 250 volts with standard insulation. For higher voltages, integral frame sizes are recommended. Minimum voltage is 75 volts in standard construction. 12 volt and up are available with hp derated as limited by brush current density.

FORM FACTOR of the current is the ratio of the root-mean square value of the current to the average value of current. For straight d-c, the form factor is 1. For motors operated on rectified power, the a-c ripple content of the rectified current will cause additional heating which increases as the square of the form factor. A motor is suitable for operation at the form factor stamped on the nameplate or lower at rated load and rated speed. Actual motor heating when run in the application with the intended power supply should be determined by test and is the responsibility of the purchaser.

Service Factor

All motors are designed for the service factor 1.0.

Windings

The shunt motor is the standard price book listed motor.

The compound motor is designed with the series field not to exceed 15% of the total excitation. The design is capable of series windings up to 50% of the total excitation for special applications.

Compensated shunt, series and split series motor are available on a special basis.

Torque Characteristics

Type T motors are designed for the following typical torque characteristics: (defined as torque available under stable operating conditions.)

	Stalled Torque	Breakdown Torque
Compound	400%	350%
Shunt	250%	250%
Series	750%	—
Permanent Magnet	600%	—

Field-Permanent Magnet

BARRIUM FERRITE very high energy product. High coercive force which will permit long life operation under normal conditions and under the specified operating conditions.

MECHANICAL DATA

Conduit Box And Lead Termination

CONDUIT BOX is located in commutator end shield as standard except TEFC Frame 56 which has external conduit box. Size is large to allow convenient connections to be made. Access to built in conduit box is by removal of access cover.

LINE LEAD entry into box is through a 7/8 inch diameter hole which is suitable for a 3/4 inch conduit fitting. Standard location is on right hand side when viewed from the commutator end. Opposite standard can be furnished at no extra charge, but must be specified. Leads extend 3 to 5 inches from frame or conduit box. All leads are identified with continuous stamping on the leads.

Brush Access

For 56 and DB160 frames brush access is through the end shield. SXT 56 frames have openings in the frame for brush inspection and removal; not available on explosion proof motors.

Shafts

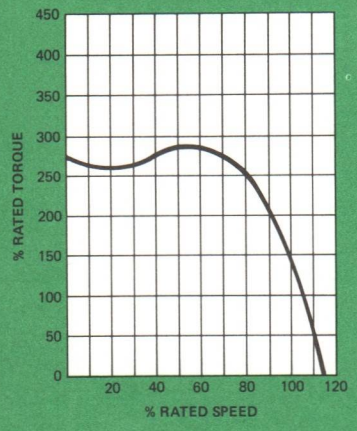
Shaft sizes per NEMA standards for ratings below 1 hp, that is, 1/2" dia. × 1 1/2" with flat on frame 48 and 5/8" dia. × 1 7/8" with keyway on frame 56. for ratings 1 hp and above Reliance Electric supplies 7/8" dia. × 2 1/8" with keyway.

Accessories

Available accessories include:

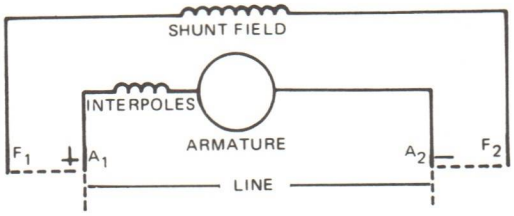
Thermostats, Brakes and Tachometers

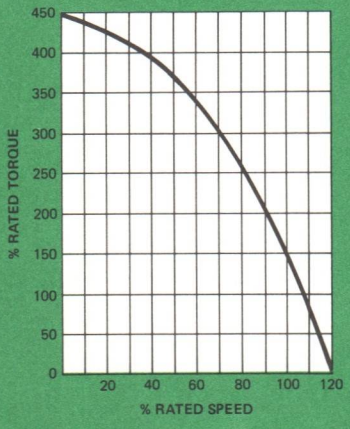
APPLICATION DATA



SHUNT WOUND—D-C Operation

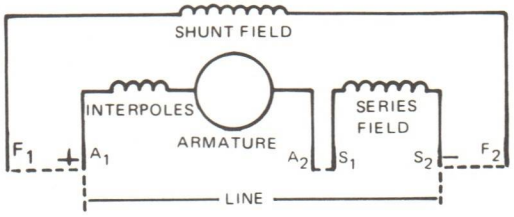
Shunt wound motors with the armature shunted across the field, offer relatively flat speed-torque characteristics. Combined with inherently controlled no-load speed, this provides good speed regulation over wide load ranges. While the starting torque is comparatively lower than the other d-c winding types, shunt wound motors offer simplified control for reversing service.

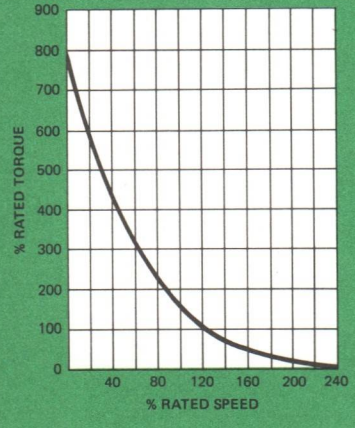




COMPOUND WOUND—D-C Operation

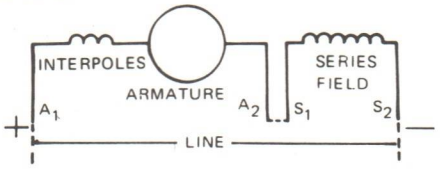
Compound wound (stabilized shunt) motors utilize a field winding in series with the armature in addition to the shunt field to obtain a compromise in performance between a series and shunt type motor. This type offers a combination of good starting torque and speed stability. Standard compounding is about 12%. Heavier compounding of up to 40 or 50% can be supplied for special high starting torque applications, such as hoists and cranes.

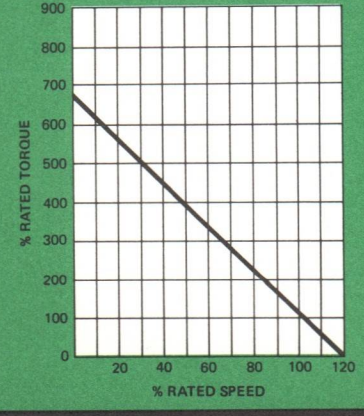




SERIES WOUND—D-C Operation

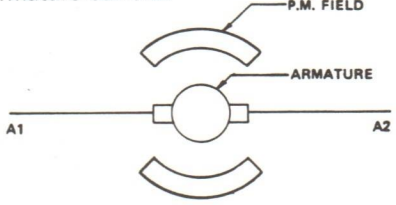
Series motors have the armature connected in series with the field. While it offers very high starting torque and good torque output per ampere, the series motor has poor speed regulation. Speed of d-c series motors is generally limited to 5000 rpm and below. Series motors should be avoided in applications where they are likely to lose their load because of their tendency to "run away" under no-load conditions. These are generally used on crane and hoise applications.





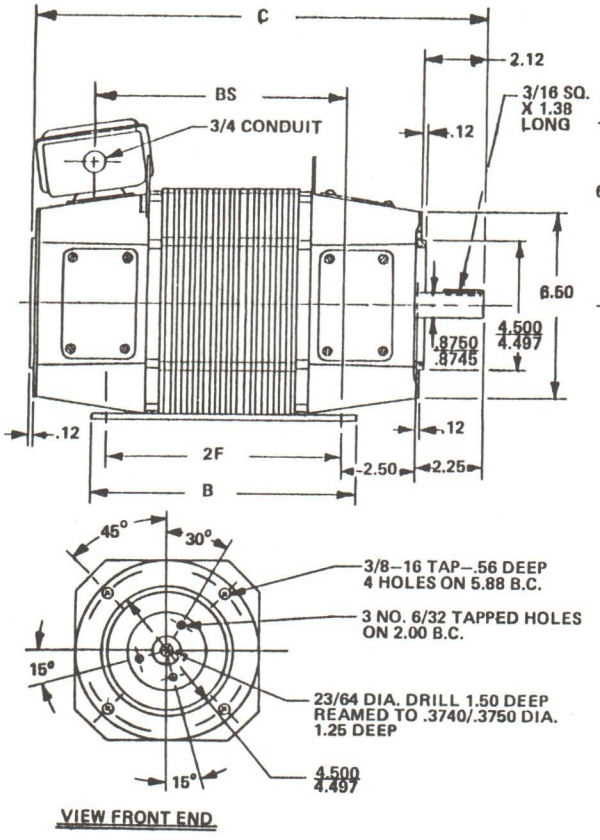
PERMANENT MAGNET—D-C Operation

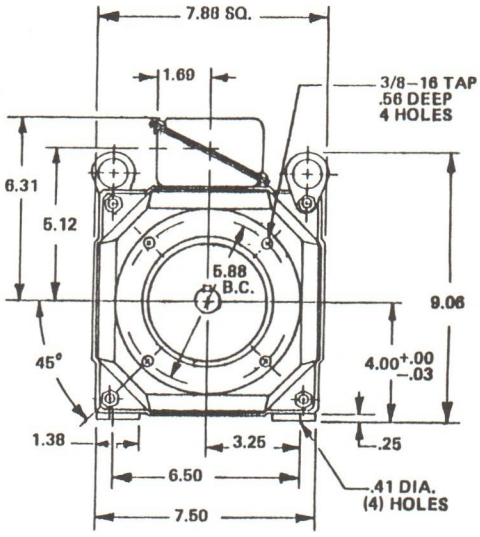
Permanent magnet motors have a conventional wound armature with commutator and brushes and a permanent magnet field. This motor has excellent starting torques, with speed regulation not as good as compound motors. However, the speed regulation can be improved with various designs, with corresponding lower rated torques for a given frame. Because of the permanent field, motor losses are less with better operating efficiencies. These motors can be dynamically braked and reversed at some low armature voltage (10%) but should not be plug reversed with full armature voltage. Reversing current can be no higher than the locked armature current.



WOUND FIELD

Frames DB168ATC thru DB1611ATC



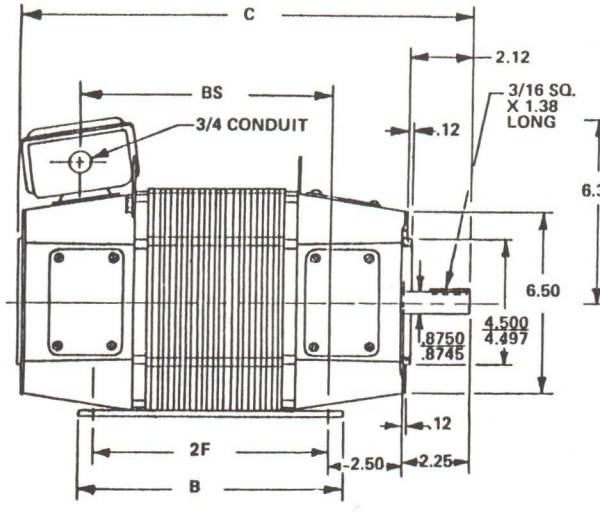


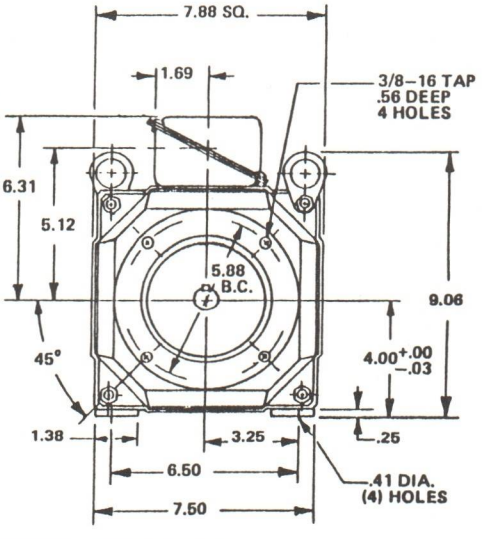
Face Runout and Eccentricity .004 Max. T.I.R.
Shaft Runout .002 Max. T.I.R.

FRAME	C	BS	2F	B	WT.
DB168ATC	15.27	8.35	8.00	9.00	95
DB169ATC	16.02	9.10	9.00	10.00	102
DB1610ATC	17.39	10.47	10.00	11.00	118
DB1611ATC	18.77	11.85	11.50	12.50	134

ENCLOSURE:
Dripproof Guarded
Totally Enclosed
MOUNTING:
Rigid Mounted
NEMA "C" Face
COOLING:
Self-Ventilated
Non-Ventilated
TYPE:
T and TR
ACCESSORIES:
Provision for Mounting Tachometer
DIMENSION SHEET:
600761-20
August 25, 1981

Frames DB168ATC thru DB1611ATC





Face Runout and Eccentricity .004 Max. T.I.R.
Shaft Runout .002 Max. T.I.R.

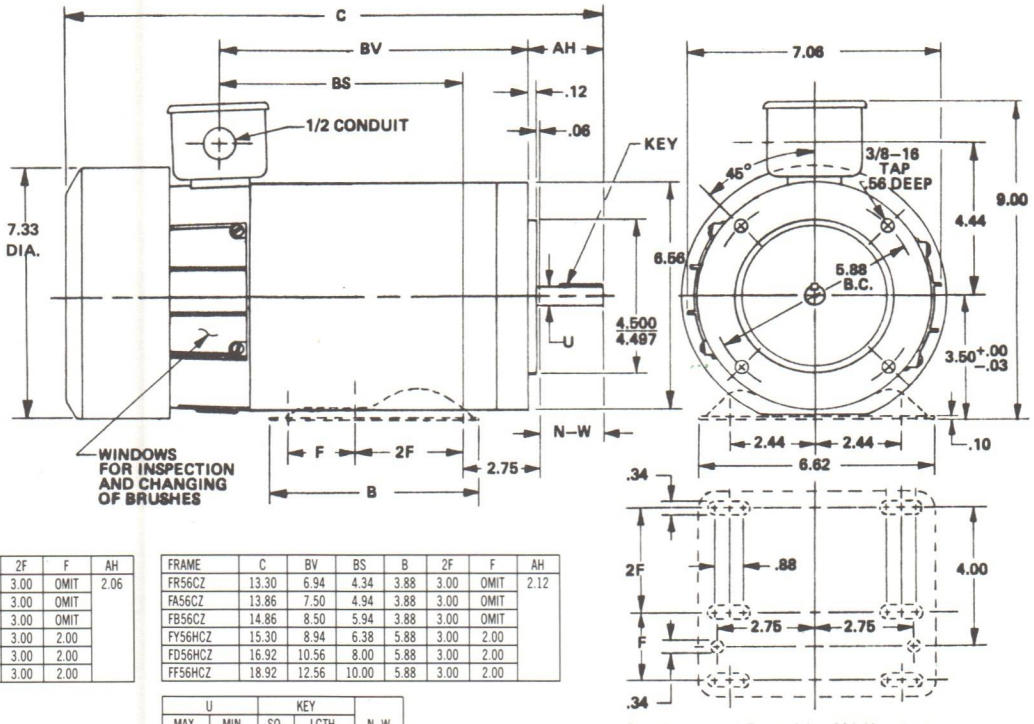
FRAME	C	BS	2F	B	WT.
DB168ATC	15.27	8.35	8.00	9.00	95
DB169ATC	16.02	9.10	9.00	10.00	102
DB1610ATC	17.39	10.47	10.00	11.00	118
DB1611ATC	18.77	11.85	11.50	12.50	134

ENCLOSURE:
Dripproof Guarded
Totally Enclosed
MOUNTING:
Rigid Mounted
NEMA "C" Face
COOLING:
Self-Ventilated
Non-Ventilated
TYPE:
T and TR
DIMENSION SHEET:
600761-33
August 25, 1981

WOUND FIELD

Frames FR56C thru FF56HC • FR56CZ thru FF56HCZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Fan-Cooled
TYPE:
T and TR
DIMENSION SHEET:
610301-122
January 6, 1983



FRAME	C	BV	BS	B	2F	F	AH
FR56C	13.24	6.94	4.34	3.88	3.00	OMIT	2.06
FA56C	13.80	7.50	4.94	3.88	3.00	OMIT	
FB56C	14.80	8.50	5.94	3.88	3.00	OMIT	
FY56HC	15.24	8.94	6.38	5.88	3.00	2.00	
FD56HC	16.86	10.56	8.00	5.88	3.00	2.00	
FF56HC	18.86	12.56	10.00	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.6250	.6245	.188	1.25	1.88

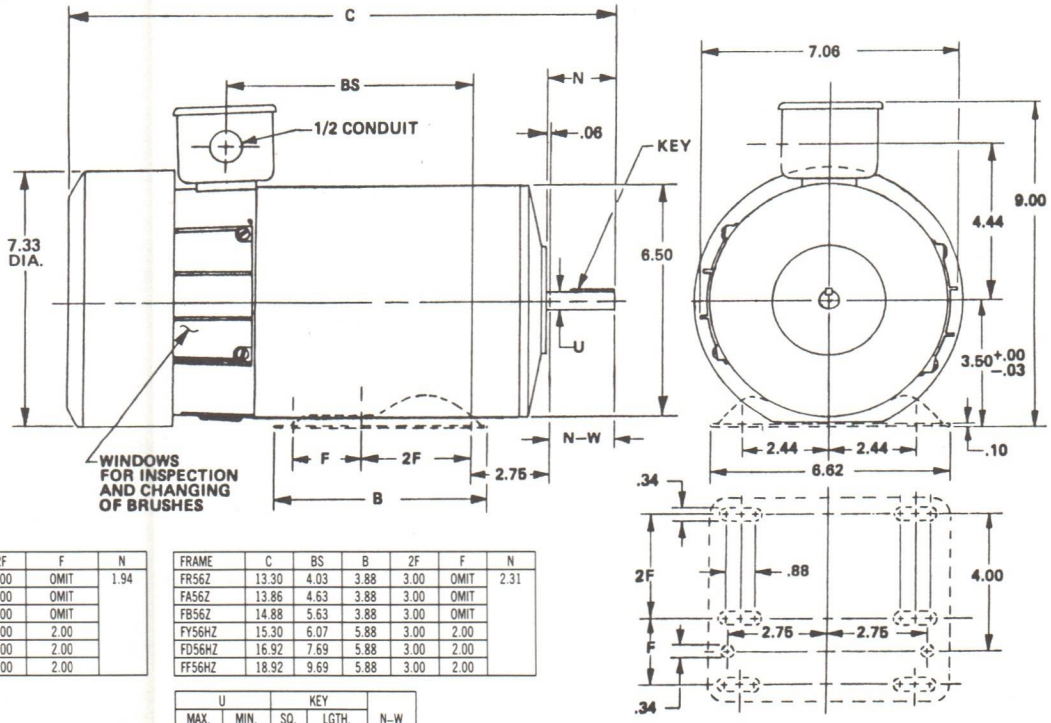
FRAME	C	BV	BS	B	2F	F	AH
FR56CZ	13.30	6.94	4.34	3.88	3.00	OMIT	2.12
FA56CZ	13.86	7.50	4.94	3.88	3.00	OMIT	
FB56CZ	14.86	8.50	5.94	3.88	3.00	OMIT	
FY56HCZ	15.30	8.94	6.38	5.88	3.00	2.00	
FD56HCZ	16.92	10.56	8.00	5.88	3.00	2.00	
FF56HCZ	18.92	12.56	10.00	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.8750	.8745	.188	1.38	1.94

Face Runout and Eccentricity .004 Max. T.I.R.
Shaft Runout .002 Max. T.I.R.

Frames FR56 thru FF56H • FR56Z thru FF56HZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
COOLING:
Fan-Cooled
TYPE:
T and TR
DIMENSION SHEET:
610301-123
January 6, 1983



FRAME	C	BS	B	2F	F	N
FR56	12.93	4.03	3.88	3.00	OMIT	1.94
FA56	13.49	4.63	3.88	3.00	OMIT	
FB56	14.49	5.63	3.88	3.00	OMIT	
FY56H	14.93	6.07	5.88	3.00	2.00	
FD56H	16.55	7.69	5.88	3.00	2.00	
FF56H	18.55	9.69	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.6250	.6245	.188	1.25	1.88

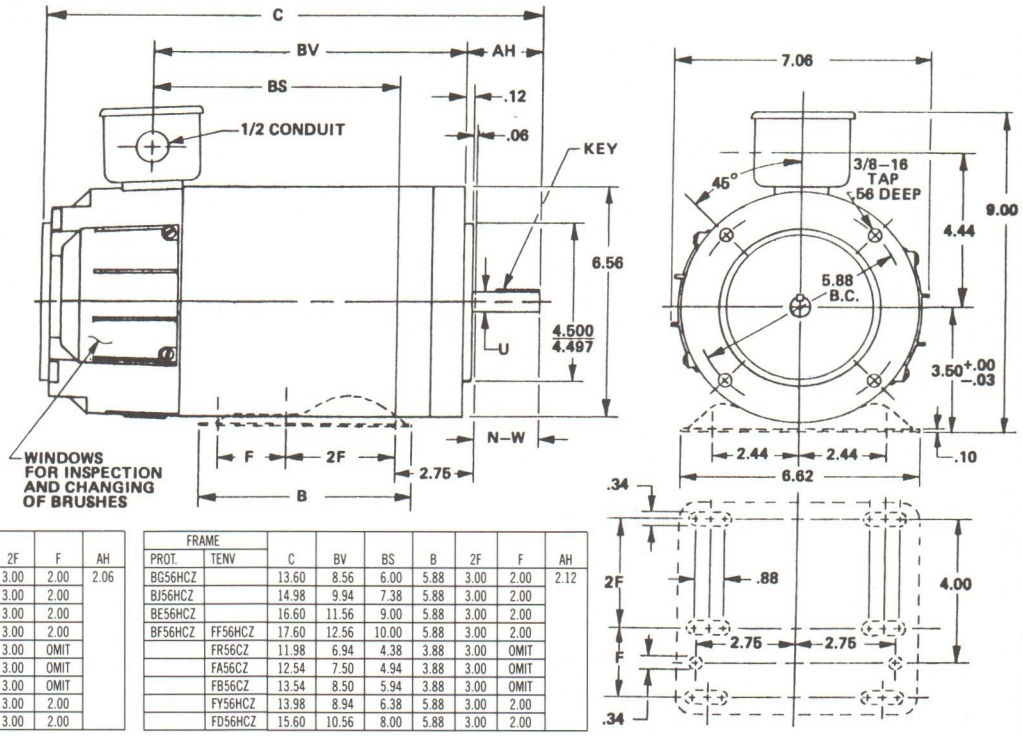
FRAME	C	BS	B	2F	F	N
FR56Z	13.30	4.03	3.88	3.00	OMIT	2.31
FA56Z	13.86	4.63	3.88	3.00	OMIT	
FB56Z	14.88	5.63	3.88	3.00	OMIT	
FY56HZ	15.30	6.07	5.88	3.00	2.00	
FD56HZ	16.92	7.69	5.88	3.00	2.00	
FF56HZ	18.92	9.69	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.8750	.8745	.188	1.38	2.25

WOUND FIELD

PROT: Frames BG56HC thru BF56HC • BG56HCZ thru BF56HCZ
TENV: Frames FF56HC thru FD56HC • FF56HCZ thru FD56HCZ

ENCLOSURE:
Protected
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Self-Ventilated
Non-Ventilated
TYPE:
T and TR
DIMENSION SHEET:
610302-104
January 6, 1983



FRAME								
PROT.	TENV	C	VB	BS	B	2F	F	AH
BG56HC		13.54	8.56	6.00	5.88	3.00	2.00	2.06
BJ56HC		14.92	9.94	7.38	5.88	3.00	2.00	
BE56HC		16.54	11.56	9.00	5.88	3.00	2.00	
BF56HC	FF56HC	17.54	12.56	10.00	5.88	3.00	2.00	
	FR56C	11.92	6.94	4.38	3.88	3.00	OMIT	
	FA56C	12.48	7.50	4.94	3.88	3.00	OMIT	
	FB56C	13.48	8.50	5.94	3.88	3.00	OMIT	
	FY56HC	13.92	8.94	6.38	5.88	3.00	2.00	
	FD56HC	15.54	10.56	8.00	5.88	3.00	2.00	

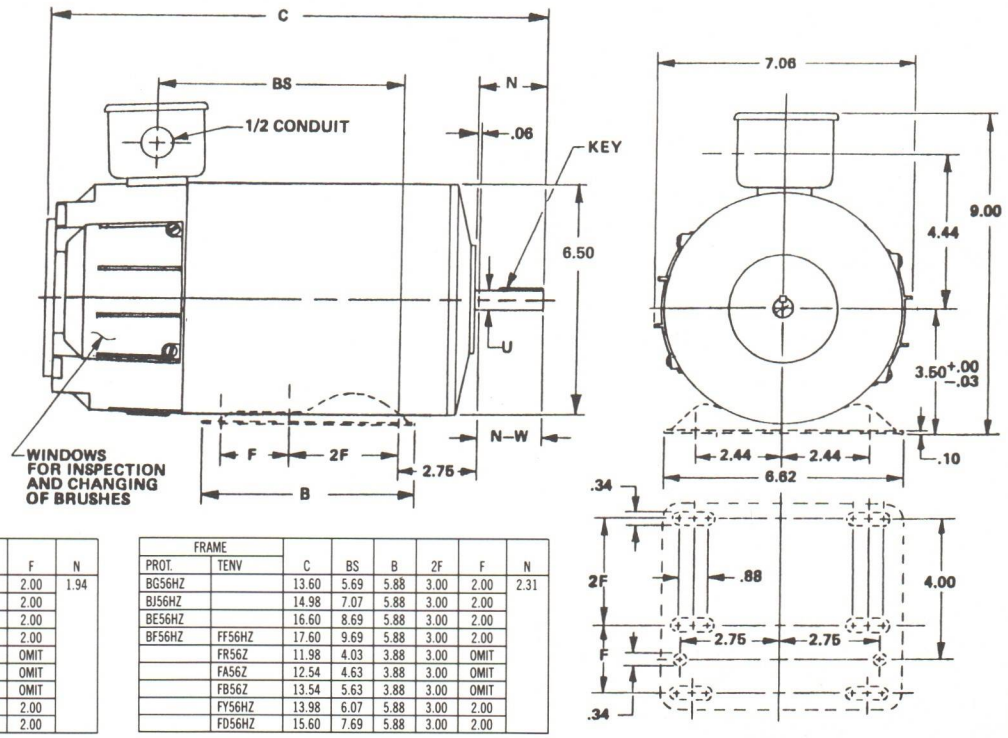
U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.6250	.6245	.188	1.25	1.88

FRAME								
PROT.	TENV	C	BV	BS	B	2F	F	AH
BG56HCZ		13.60	8.56	6.00	5.88	3.00	2.00	2.12
BJ56HCZ		14.98	9.94	7.38	5.88	3.00	2.00	
BE56HCZ		16.60	11.56	9.00	5.88	3.00	2.00	
BF56HCZ	FF56HCZ	17.60	12.56	10.00	5.88	3.00	2.00	
	FR56CZ	11.98	6.94	4.38	3.88	3.00	OMIT	
	FA56CZ	12.54	7.50	4.94	3.88	3.00	OMIT	
	FB56CZ	13.54	8.50	5.94	3.88	3.00	OMIT	
	FY56HCZ	13.98	8.94	6.38	5.88	3.00	2.00	
	FD56HCZ	15.60	10.56	8.00	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.8750	.8745	.188	1.38	1.94

PROT: Frames BG56H thru BF56H • BG56HZ thru BF56HZ
TENV: Frames FF56H thru FD56H • FF56HZ thru FD56HZ

ENCLOSURE:
Protected
Totally Enclosed
MOUNTING:
Rigid Mounted
COOLING:
Self-Ventilated
Non-Ventilated
TYPE:
T and TR
DIMENSION SHEET:
610302-108
January 6, 1983



FRAME							
PROT.	TENV	C	BS	B	2F	F	N
BG56H		13.23	5.69	5.88	3.00	2.00	1.94
BJ56H		14.61	7.07	5.88	3.00	2.00	
BE56H		16.23	8.69	5.88	3.00	2.00	
BF56H	FF56H	17.23	9.69	5.88	3.00	2.00	
	FR56	11.61	4.03	3.88	3.00	OMIT	
	FA56	12.17	4.63	3.88	3.00	OMIT	
	FB56	13.17	5.63	3.88	3.00	OMIT	
	FY56H	13.61	6.07	5.88	3.00	2.00	
	FD56H	15.23	7.69	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.6250	.6245	.188	1.25	1.88

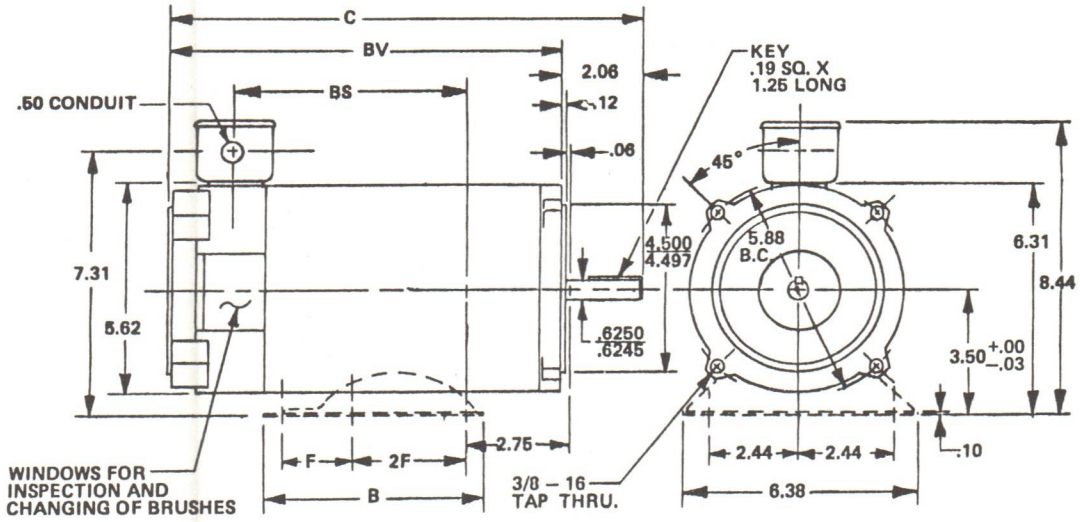
FRAME							
PROT.	TENV	C	BS	B	2F	F	N
BG56HZ		13.60	5.69	5.88	3.00	2.00	2.31
BJ56HZ		14.98	7.07	5.88	3.00	2.00	
BE56HZ		16.60	8.69	5.88	3.00	2.00	
BF56HZ	FF56HZ	17.60	9.69	5.88	3.00	2.00	
	FR56Z	11.98	4.03	3.88	3.00	OMIT	
	FA56Z	12.54	4.63	3.88	3.00	OMIT	
	FB56Z	13.54	5.63	3.88	3.00	OMIT	
	FY56HZ	13.98	6.07	5.88	3.00	2.00	
	FD56HZ	15.60	7.69	5.88	3.00	2.00	

U		KEY		
MAX.	MIN.	SQ.	LGTH.	N–W
.8750	.8745	.188	1.38	2.25

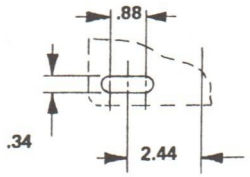
PERMANENT MAGNET

Frames EA56C thru EF56C

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Non-Ventilated
TYPE:
TP and TPR
DIMENSION SHEET:
610302-126
May 11, 1983



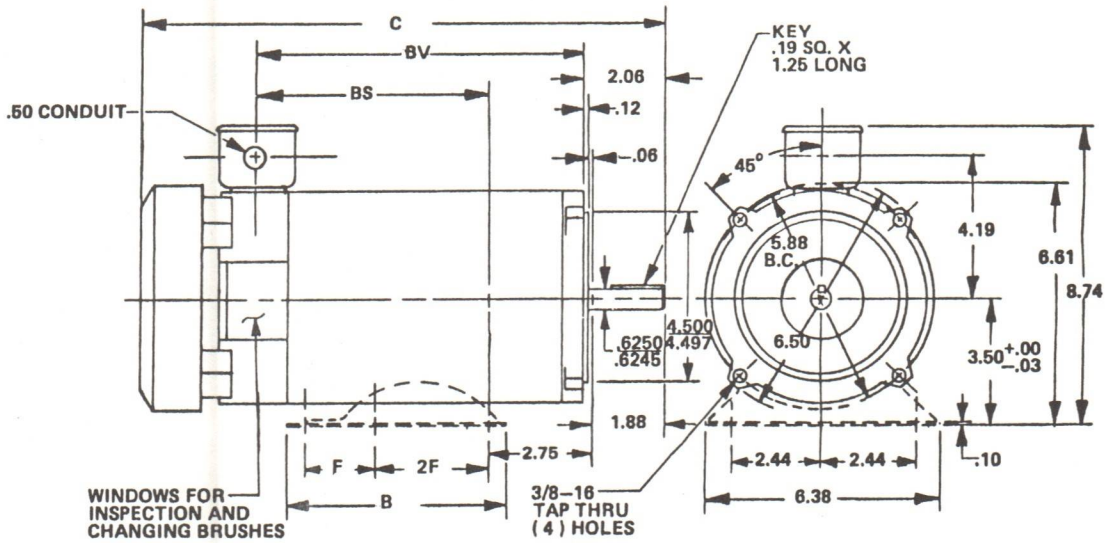
Tenon of Flange must be concentric within .004 T. I. R.
Face Runout not to exceed .004 T. I. R.
Shaft Runout not to exceed .002 T. I. R.



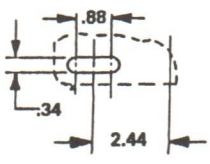
FRAME	C	BV	BS	F	2F	B
EA56C	10.68	6.88	4.31	2.00	3.00	5.72
EC56C	11.68	7.88	5.31	2.00	3.00	5.72
EE56C	12.68	8.88	6.31	2.00	3.00	5.72
EF56C	13.68	9.88	7.31	2.00	3.00	5.72

Frames EA56C thru EF56C

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Fan-Cooled
TYPE:
TP and TPR
DIMENSION SHEET:
610301-129
May 11, 1983



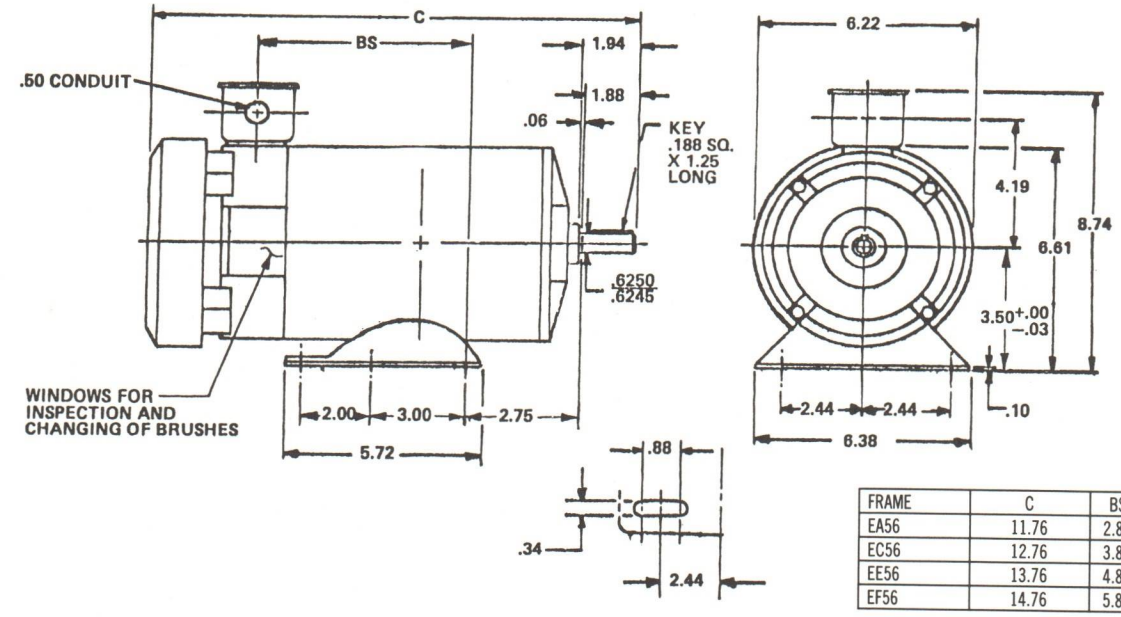
Tenon of Flange must be concentric within .004 T. I. R.
Face Runout not to exceed .004 T. I. R.
Shaft Runout not to exceed .002 T. I. R.



FRAME	C	BV	BS	F	2F	B
EA56C	11.76	6.88	4.31	2.00	3.00	5.72
EC56C	12.76	7.88	5.31	2.00	3.00	5.72
EE56C	13.76	8.88	6.31	2.00	3.00	5.72
EF56C	14.76	9.88	7.31	2.00	3.00	5.72

PERMANENT MAGNET

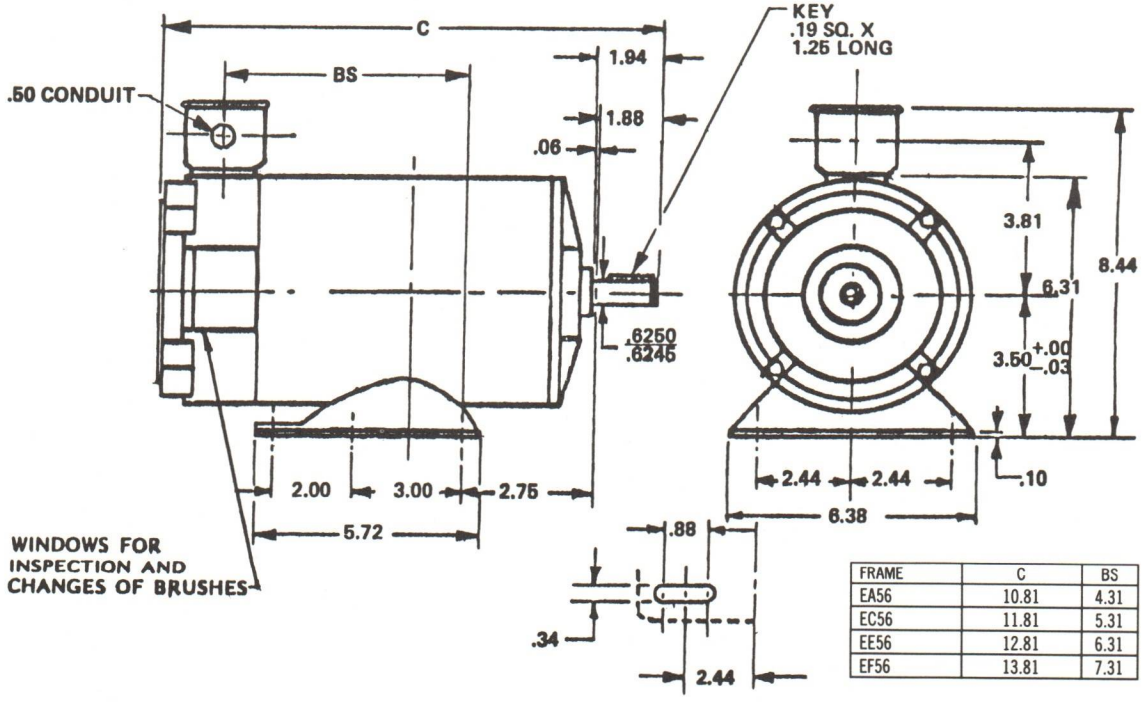
Frames EA56 thru EF56



ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
COOLING:
Fan-Cooled
TYPE:
TP and TPR
DIMENSION SHEET:
610301-130
May 11, 1983

FRAME	C	BS
EA56	11.76	2.81
EC56	12.76	3.81
EE56	13.76	4.81
EF56	14.76	5.81

Frames EA56 thru EF56



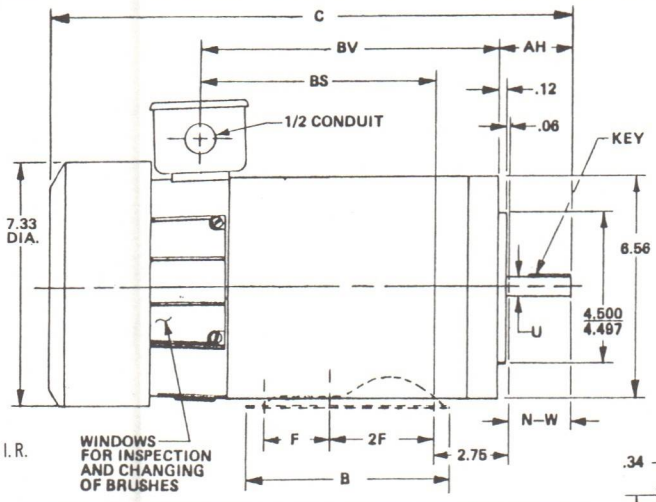
ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
COOLING:
Fan-Cooled
TYPE:
TP and TPR
DIMENSION SHEET:
610302-127
May 11, 1983

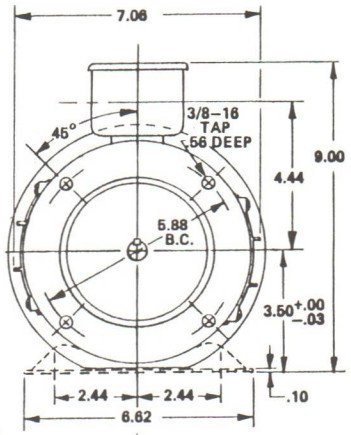
FRAME	C	BS
EA56	10.81	4.31
EC56	11.81	5.31
EE56	12.81	6.31
EF56	13.81	7.31

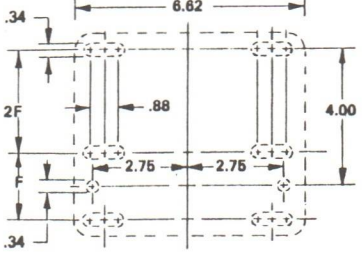
PERMANENT MAGNET

Frames FB56C thru FF56HC • FB56CZ thru FF56HCZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Fan-Cooled
TYPE:
TP and TPR
DIMENSION SHEET:
610301-121
January 6, 1983







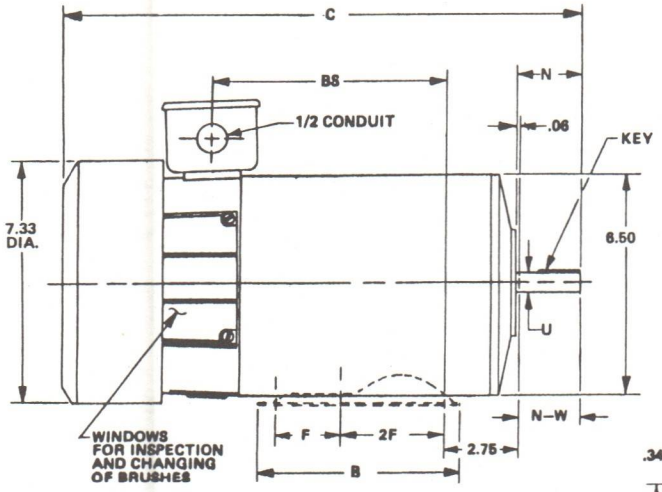
Face Runout and Eccentricity .004 Max. T.I.R.
Shaft Runout .002 Max. T.I.R.

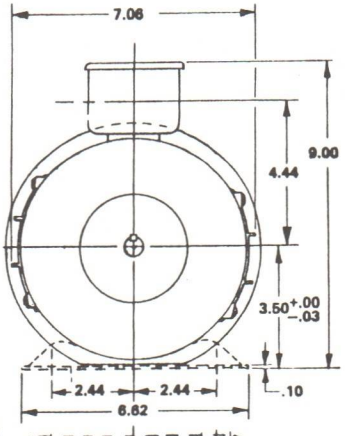
FRAME	C	BV	BS	B	2F	F	AH	U MAX.	U MIN.	KEY SQ.	KEY LGTH.	N–W
FB56C	14.80	8.50	5.94	3.88	3.00	OMIT	2.06	.6250	.6245	.188	1.25	1.88
FC56HC	15.80	9.50	6.94	5.88	3.00	2.00						
FZ56HC	17.24	10.94	8.38	5.88	3.00	2.00						
FF56HC	18.86	12.56	10.00	5.88	3.00	2.00						

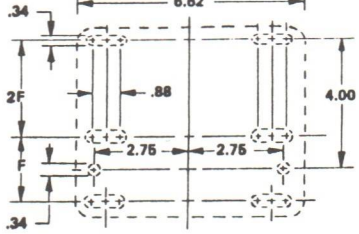
FRAME	C	BV	BS	B	2F	F	AH	U MAX.	U MIN.	KEY SQ.	KEY LGTH.	N–W
FB56CZ	14.86	8.50	5.94	3.88	3.00	OMIT	2.12	.8750	.8745	.188	1.38	1.94
FC56HCZ	15.86	9.50	6.94	5.88	3.00	2.00						
FZ56HCZ	17.30	10.94	8.38	5.88	3.00	2.00						
FF56HCZ	18.92	12.56	10.00	5.88	3.00	2.00						

Frames FB56 thru FF56H • FB56Z thru FF56HZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
COOLING:
Fan-Cooled
TYPE:
TP and TPR
DIMENSION SHEET:
610302-124
January 6, 1983







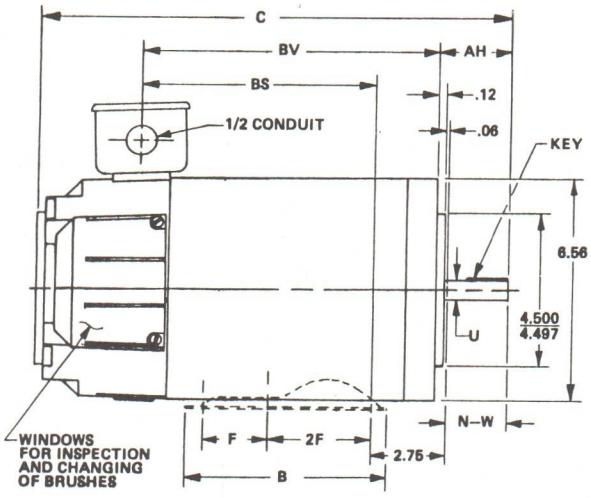
FRAME	C	BS	B	2F	F	N	U MAX.	U MIN.	KEY SQ.	KEY LGTH.	N–W
FB56	14.80	5.94	3.88	3.00	OMIT	1.94	.6250	.6245	.188	1.25	1.88
FC56H	15.80	6.94	5.88	3.00	2.00						
FZ56H	17.24	8.38	5.88	3.00	2.00						
FF56H	18.86	10.00	5.88	3.00	2.00						

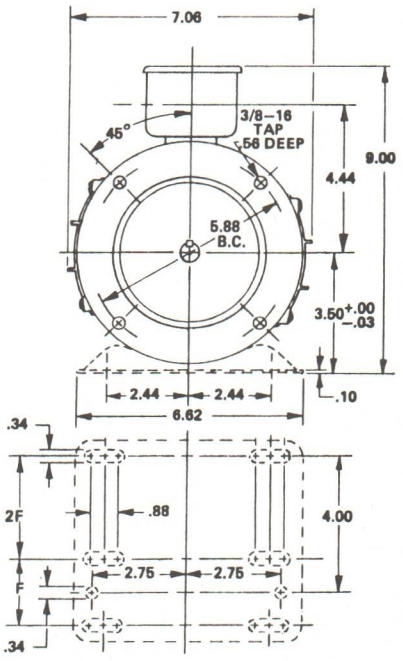
FRAME	C	BS	B	2F	F	N	U MAX.	U MIN.	KEY SQ.	KEY LGTH.	N–W
FB56Z	14.86	5.63	3.88	3.00	OMIT	2.31	.8750	.8745	.188	1.38	2.25
FC56HZ	15.86	6.63	5.88	3.00	2.00						
FZ56HZ	17.30	8.07	5.88	3.00	2.00						
FF56HZ	18.92	9.69	5.88	3.00	2.00						

PERMANENT MAGNET

Frames FB56C thru FF56HC • FB56CZ thru FF56HCZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted
Round Body
NEMA "C" Face
COOLING:
Non-Ventilated
TYPE:
TP and TPR
DIMENSION SHEET:
610302-105
January 6, 1983





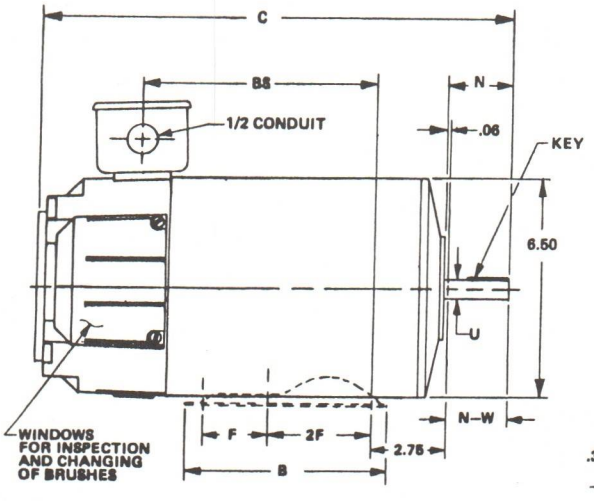
Face Runout and Eccentricity .004 Max. T. I. R.
Shaft Runout .002 Max. T. I. R.

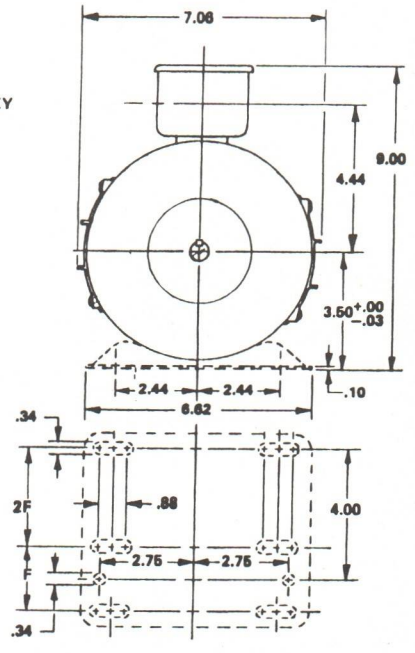
FRAME	C	BV	BS	B	2F	F	AH	U		KEY		N–W
								MAX.	MIN.	SQ.	LGTH.	
FB56C	13.48	8.50	5.94	3.88	3.00	OMIT	2.06	.6250	.6245	.188	1.25	1.88
FC56HC	14.48	9.50	6.94	5.88	3.00	2.00						
FZ56HC	15.92	10.94	8.38	5.88	3.00	2.00						
FF56HC	17.54	12.56	10.00	5.88	3.00	2.00						

FRAME	C	BV	BS	B	2F	F	AH	U		KEY		N–W
								MAX.	MIN.	SQ.	LGTH.	
FB56CZ	13.54	8.50	5.94	3.88	3.00	OMIT	2.12	.8750	.8745	.188	1.38	1.94
FC56HCZ	14.54	9.50	6.94	5.88	3.00	2.00						
FZ56HCZ	15.98	10.94	8.38	5.88	3.00	2.00						
FF56HCZ	17.60	12.56	10.00	5.88	3.00	2.00						

Frames FB56 thru FF56H • FB56Z thru FF56HZ

ENCLOSURE:
Totally Enclosed
MOUNTING:
Rigid Mounted





FRAME	C	BS	B	2F	F	N	U		KEY		N–W
							MAX.	MIN.	SQ.	LGTH.	
FB56	13.48	5.94	3.88	3.00	OMIT	1.94	.6250	.6245	.188	1.25	1.88
FC56H	14.48	6.94	5.88	3.00	2.00						
FZ56H	15.92	8.38	5.88	3.00	2.00						
FF56H	17.54	10.00	5.88	3.00	2.00						

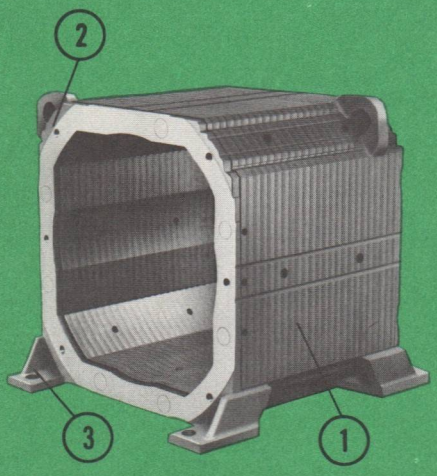
FRAME	C	BS	B	2F	F	N	U		KEY		N–W
							MAX.	MIN.	SQ.	LGTH.	
FB56Z	13.54	5.63	3.88	3.00	OMIT	2.31	.8750	.8745	.188	1.38	2.25
FC56HZ	14.54	6.63	5.88	3.00	2.00						
FZ56HZ	15.98	8.07	5.88	3.00	2.00						
FF56HZ	17.60	9.69	5.88	3.00	2.00						

GENERAL INFORMATION

INDEX

	Pg.C-
GENERAL FEATURES	20-21
STANDARD MOTOR FEATURES	21-25
Enclosures	21
Accessories and Modifications	25
Altitude	22
Ambient	22
Balance	22
Base Speed Variation	22
Bearings	22
Choke-Separate from Motor	22
Conduit Box (Terminal Housing)	23
Connections	23
Direction of Rotation	23
Field Speed Range	23
Field Windings	23
Finish-Paint	23
Frame Numbering System	26
Insulation	23
Lubrication	24
Mounting	24
Overload	24
Power Supply	24
Service Factor	24
Shaft Extension and Method of Drive	24
Maximum Safe Speed	24-25
Test-Standard	25
Voltage	25

SUPER RPM motors are based on more than 75 years of Reliance Electric motor technology that includes the Super T and the original RPM motor — the first D-C motor specifically designed to operate from solid-state rectified power. Built to take on industry's toughest jobs, SUPER RPM motors have proven themselves through on-the-job performance. Whatever your D-C requirements, the SUPER RPM motor is the best investment for your D-C motor dollars to give you dependable D-C motor performance for years to come.



SUPER RPM laminated frame with gusseted foot pad typical of Frames B320ATZ through B840AT. (Frames DB180ATZ through B280ATZ have gusseted foot bar).

UNIQUE LAMINATED SQUARE FRAME FOR BETTER PERFORMANCE.

Better performance begins with the SUPER RPM motor's unique laminated square frame. The square configuration packs up to 20% more active material into the same space as a round frame of equivalent shaft height. This permits the SUPER RPM motor to use a larger armature for optimum power generation, and also provides more ventilation area for better heat dissipation. You get more efficient space utilization without compromise in performance or motor life.

The SUPER RPM frame is built from insulated steel laminations (1), which present an electrical barrier to the formation of eddy currents induced by the static power supply. Compared to cast iron or rolled steel frames, the laminated frame greatly improves commutation for optimum performance and significantly reduces heating for longer life.

Frame rigidity and strength equivalent to solid rolled steel construction are assured by special assembly techniques to maintain minimum 200 psi interlaminate pressure. Rabbet fits (2) and gusseted feet (3) add to frame strength, stability and rigidity.

ARMATURE AND FIELD WINDINGS DESIGNED AND TESTED TO INSURE TROUBLE-FREE OPERATION

The SUPER RPM armature is designed for superior commutation through the speed range to insure trouble-free operation. The commutator is a dimensionally stable, homogenous unit that is easily serviceable. High or low bars are eliminated for better commutation.

Field coils are layer wound to eliminate air pockets which cause performance-limiting hot spots. Field poles with crowned seats bolt securely to the frame to assure axial alignment and uniform air gap between the poles and armature. This assures correct thermal and magnetic conduction for optimum motor performance.

The SUPER RPM insulation system provides an extra margin of safety for those tough industrial applications by combining various Class F and Class H materials and process techniques for optimum thermal, electrical and mechanical strength.

GENERAL INFORMATION

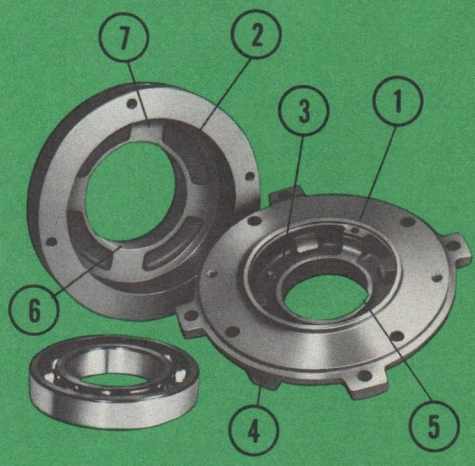
EXCLUSIVE PLS/POSITIVE LUBRICATION SYSTEM FOR LONGER LIFE

Longer life starts with the SUPER RPM motor's patented PLS™/Positive Lubrication System. This system, developed and tested by Reliance Electric engineers, provides positive motor bearing protection in any mounting position or operating environment.

The grease directing passage (1) assures that incoming grease is uniformly distributed to both sides of the bearing and to both inboard and outboard grease cavities. These cavities (2 & 3) are generously sized to allow, in normal applications, one year operation before regreasing is necessary. Grease relief is provided through a drain (4) or along the outboard shaft (5).

Open bearing design allows the lubricant to remove heat from the bearing; inner and outer grease cavities protect the bearings from contamination; close internal clearances (6) and inner anti-churning vanes (7) prevent grease leakage into the motor.

This exclusive lubrication system design results in excellent bearing protection and cooler bearing operation, which contribute to long, trouble-free service regardless of motor application.



Inner and outer caps with PLS™ lubrication system features assure positive lubrication of SUPER RPM motor bearings.

STANDARD MOTOR FEATURES

This catalog is designed to help motor users quickly select and specify the proper Reliance Electric Industrial Direct-Current Motor. Pricing and frame size information on standard motors is given on the Pricing and Frame Size pages. A complete listing and definition of standard motor features is contained in this section. Application requirements beyond the limits of the basic motor will require a modification adder. Modifications are listed immediately following the basic price pages. The Dimension Sheet and Application Data Sections contain detailed information required to apply D-C motors.

The following features and operating conditions apply to standard basic integral horsepower SUPER RPM motors in frames B180ATZ through B680ATZ as listed in Pricing Section. Additional features or more stringent operating conditions require a price addition from the Modification Section.

ENCLOSURES

The basic price pages (in Pricing Section) contain pricing for dripproof guarded self-ventilated, dripproof forced-ventilated, dripproof separately-ventilated and totally-enclosed motors.

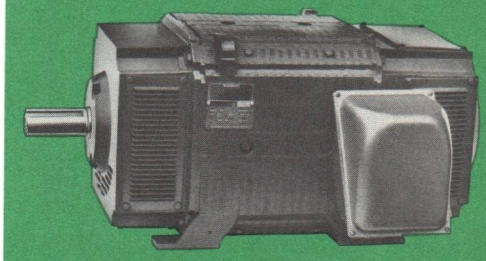
Dripproof Guarded — Ratings through 250 hp at 1750 rpm are standard as dripproof guarded self-ventilated meeting NEMA definition for dripproof and guarded machine (MG1-1.25). Louvered covers are provided on the sides with grilles on the bottom openings to prevent accidental exposure to live metal or rotating parts.

Dripproof Forced Ventilated — Intermediate ratings between 300 hp at 1750 rpm through 800 hp at 1150 rpm are dripproof guarded with forced ventilation provided by motor-mounted blower driven by three-phase a-c motor.

Dripproof Separately Ventilated — High horsepower ratings 900 hp at 1150 rpm and larger are provided as standard for separate ventilation by customer supplied air. A motor mounted blower for forced ventilation may be added as a modification.

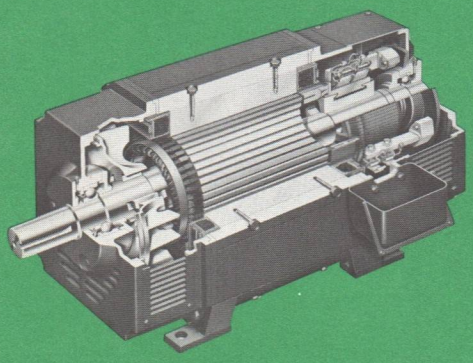
Totally-Enclosed — Motors operating in severe environments require a totally enclosed frame (Refer to Application Data Section). Totally-enclosed motors either non-ventilated, fan cooled or dual cooled depending on horsepower may be priced using a totally enclosed basic price. Motors for use in hazardous locations require an explosion-proof motor which may be priced from the explosion-proof basic pages.

Alternate enclosures including splash-proof and air-over may be priced from the Modification Section and are described in the Application Section.



DPG B3610ATZ motor.

GENERAL INFORMATION



SUPER RPM construction typical of Frames B320ATZ, B360ATZ and B400ATZ.

ALTITUDE

Sea Level to 3300 Feet—Standard temperature rise is certified on the basis that the motor or generator will operate at an altitude from sea level to 3300 feet and a maximum ambient of 40 °C. NEMA MG1-14.08.

AMBIENT

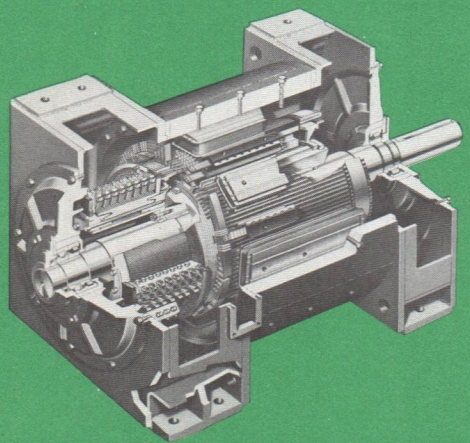
Motors as listed are designed so that the temperature rise produced in the motor, added to the standard 40° ambient temperature will not exceed the rated temperature limit of the given insulation system.

Standard SUPER RPM motors will provide rated output when operated in an ambient from 0° to 40° C. They may be operated in the range from −25° C to 0° C, however, base speed and regulation may not be in accordance with NEMA standards. Standard SUPER RPM motors may not be operated below −25° C. Operation below −25° C will require a motor with special grease and possibly special insulation. Special brushes may be required below 0 °C.

BALANCE

Standard—Reliance Electric D-C motors meet the dynamic balance limits of the NEMA Standards (MG1-12.05) for maximum amplitude (peak-to-peak displacement) in inches at their highest rated speeds. The guaranteed dynamic balance limits are for the motor or generator only without mounting accessories such as tachometer generator, blower, brake wheel, sheave, etc.

Standard Dynamic Balance Limits	
Highest Rated Speed, rpm	**Maximum Amplitude, Inches**
3000–4000	0.0010
1500–2999	0.0015
1000–1499	0.0020
Up to 999	0.0025



SUPER RPM construction—Frames B1200AT, B1400AT and B1600AT.

BASE SPEED VARIATION

The base speed of the standard motor shall be within 7½% of the rated base speed when operated at rated full-field with rated load and voltage with the windings at the constant temperature attained when operating at rated conditions per NEMA MG1-12.66. Note that variation in speed can be above and below rated speed.

BEARINGS

Standard d-c motors utilize ball bearings. These bearings and their internal clearances have been especially selected based on load carrying ability, thermal stresses and speed range consistent with ample bearing life. Roller bearings are used for belted duty on frames UB400ATZ thru UB580ATZ. High horsepower frames B1200AT through B1600AT have roller bearings on the drive end and both ball and roller bearings on the commutator end for coupled duty only.

The patented Reliance Electric PLS/Positive Lubrication System, with deep grooved, anti-friction ball bearings, gives complete bearing protection and long bearing life.

An integral pad on the outer cap is provided for mounting a pickup to monitor bearing condition on frames B500ATZ and larger.

CHOKE—SEPARATE FROM MOTOR

All standard SUPER RPM motors will operate at the listed rating on power supply C without external reactors or chokes. Certain ratings as listed on the price pages will operate on power supply D without external reactors or chokes. A price addition is required for operation on Power Supply E. Only motors with 180 V armatures are suitable for operating on power code K (two pulse/cycle, single phase, full wave) rectified a-c power supply without external chokes.

Refer to Application Data Section for description of power supplies.

GENERAL INFORMATION

CONDUIT BOX (TERMINAL HOUSING)

Standard construction for frames B180ATZ through B360ATZ provides a stamped metal box and cover which can be located in any quadrant as long as no accessories such as blowers are in that same quadrant.

Standard construction for frames B400ATZ and larger provides a heavy gauge mill type conduit box which can be mounted on either side of the motor. Blowers cannot generally be located on the same side as the conduit box except as follows:

B400ATZ Frame — Blower without filter can be on same side as conduit box if a-c blower motor extends away from D-C motor and overhangs commutator end bracket.

B500ATZ thru B680ATZ Frames — Blower without filter can be on same side as conduit box if a-c blower motor extends away from D-C motor and overhangs drive end bracket.

NOTE: The DB180ATZ frame conduit box is located on the top of the front end bracket as standard and cannot be located in any other quadrant.

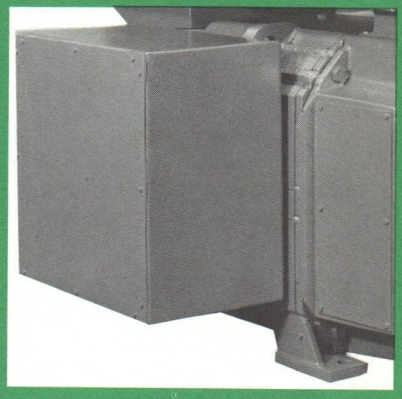
Standard stamped steel conduit box.

CONNECTIONS

Our standard motor leads are terminated in the conduit box with terminal lugs and have sufficient length (approximately 6 inches) for connecting to power leads. High hosepower frames B840AT and larger have bus bar termination points as standard.

DIRECTION OF ROTATION

Unless otherwise ordered, brush rigging is assembled for NEMA standard direction of rotation, counter-clockwise for motors and clockwise for generators facing the commutator end. SUPER RPM machines will operate in either direction of rotation without changing the angle of the brush holders for normal field weakened speed ranges.



Mill type steel conduit box.

FIELD SPEED RANGE

SUPER RPM motors are capable of extended field weakened speed ranges without the use of external reactors or chokes when used on the specific power supply. The "nominal by field control" speed on the basic price pages for motors with base speed of 850 rpm and higher is designed specifically for application on drives with speed control by armature voltage only. It provides a nominal field speed range for trimming the motor speed with a field resistor. This permits matching the motor speed to a standard gear reducer ratio or to another motor speed. This speed range will be supplied on all orders specifying the nominal speed range. Extended field weakened speed ranges may be obtained by referring to the modification section — Mod 305. A price addition may be required for extended speed range. (High horsepower motors have adders for extended speed range on the basic price pages).

FIELD WINDINGS

A standard design, un-modified motor has a stabilized shunt field winding. Stock 180 V armature motors have straight shunt field windings as indicated in the rating tabulation with a footnote. High horsepower frames B840AT and larger are straight shunt with compensating pole face windings.

FINISH-PAINT

Standard finish is Reliance Electric blue-green (Munsell Color System 8.5BG3.57/2.0) modified epoxy ester, air dry enamel with non-toxic rust inhibitors.

INSULATION

The standard SUPER RPM insulation system is rated for Class F rise. It is a thoroughly tested and proved system providing excellent protection against fungus and high humidity. The armature and field coil insulation systems were evaluated for thermal life by conducting "D-C Motorette" tests following the IEEE #304 test procedure for "Evaluating and Classifying Insulation Systems for Direct Current Machines." Results provided an advanced Class F insulation system with superior electrical, thermal and mechanical characteristics for longer coil life. Insulation materials used in this system include: Nomex ground insulation, Polyester Amide Imide film coated magnet wire, epoxy glass sleeving, glass tape, thermosetting glass adhesive tape, Polyester glass top wedges and coil retainers and high viscosity "non-silicone" Class H (180° C) varnish.

GENERAL INFORMATION

LUBRICATION

SUPER RPM frames B180ATZ–B1600AT have the Patented PLS/Positive Lubrication System developed and tested by Reliance Electric to provide positive motor bearing protection. Open bearing design allows the lubricant to remove heat from the bearing.

SUPER RPM frames DB180ATZ have oversize grease reservoirs to provide lifetime operation in normal industrial applications.

Standard grease may be used in ambients down to −25° C.

MOUNTING

Standard SUPER RPM motors frames DB180ATZ–B680ATZ will operate successfully mounted on the floor, wall or ceiling and with the shaft at any angle from horizontal to vertical. A modification to the standard dripproof motor is required to provide dripproof protection to vertically-mounted dripproof motors.

NOTE: Motor must be force-ventilated when mounted vertical shaft up.

Drive-end brackets can be rotated either 90° or 180° to conveniently locate the grease fittings or the air outlet openings. Hand-hole covers can be interchanged as necessary on the commutator-end bracket eliminating the need for bracket rotation in most cases.

OVERLOAD

Momentary Overloads — In accordance with NEMA, standard D-C motors and generators shall be capable of operating with successful commutation for a period of one minute with a current load of 150 percent of the base speed full-load current at all speeds within the rated speed range. Refer to Application Data Section for additional information on overloads.

POWER SUPPLY

Standard SUPER RPM motors are specifically designed to operate on rectified power supplies. Refer to Application Data Section for description of power supplies. Standard SUPER RPM motors are designed to operate on the power supply indicated on the price page.

SERVICE FACTOR

The standard SUPER RPM motor has a 1.0 service factor rating. Service factor is defined as a multiplier which when applied to the rated horsepower, indicates a permissible horsepower loading which may be carried without harm to the motor.

SHAFT EXTENSION AND METHOD OF DRIVE

SUPER RPM frames B180ATZ through B360ATZ are supplied with a drive end shaft suitable for either coupled or belted drive application. Belted drives must have a drive sheave with a pitch diameter not less than the value calculated in the Application Data Section.

SUPER RPM frames B400ATZ through B680ATZ are supplied with short shaft extensions that can be used for coupled drives only. A price addition must be made for frames with long shaft extensions and/or roller bearing (prefix UB) for belted drives. Frames UB400ATZ and UB500ATZ are supplied with a larger shaft and roller bearing for belted drives. Frames B580ATZ and UB580ATZ have the same size shaft for either belted or coupled duty; however, roller bearings are required for belted duty. Frames B680ATZ and larger are not suitable for belted applications.

All V-Belt drives should be designed within the limits of NEMA standard MG1-14.67.a. Minimum pitch diameters may be calculated using the data in the Application Data Section.

MAXIMUM SAFE SPEED (MSS)

The speeds given in the following table are the maximum mechanically safe operating speeds for frames with standard construction. **These speeds must not be exceeded under any condition.** Motor control must hold the maximum speed under any load condition including no-load within the maximum safe speed. Drive systems whose design characteristics

(Continued)

GENERAL INFORMATION

MAXIMUM SAFE SPEED (MSS) (Continued)

inherently prevent the D-C motor from exceeding the Motor Maximum Safe Operating Speed must prevent the motor from exceeding the Maximum Safe Speed if a single component failure should occur.

WARNING

THE MACHINERY BUILDER IS RESPONSIBLE FOR INSURING THAT DRIVEN MACHINERY AND ALL DRIVETRAIN MECHANISMS NOT SUPPLIED BY RELIANCE ELECTRIC AND PROCESS LINE MATERIAL ARE CAPABLE OF SAFE OPERATION AT THE MAXIMUM SPEEDS, AS SHOWN IN TABLE I. FAILURE TO DO SO CAN RESULT IN DESTRUCTION OF MECHANISM OR MATERIAL AND FLYING FRAGMENTS, ENDANGERING OPERATING PERSONNEL.

TABLE I MAXIMUM SAFE SPEED

Frame Diameter	Maximum Operating Speed, rpm	Frame Diameter	Maximum Operating Speed, rpm
DB180ATZ	4500	B500ATZ	2650
B180ATZ	5000	B580ATZ	2475
B210ATZ	4500	B680ATZ	2100
B250ATZ	4500	B840AT	1720
B280ATZ	4500	B960AT	1600
B320ATZ	3600	B1200AT	1600
B360ATZ	3400	B1400AT	1400
B400ATZ	2760	B1600AT	1200

With special construction maximum safe speed may differ from the above values. In all cases, the maximum safe speed is indicated on the motor nameplate.

NOTE: Normal operating speeds must be limited to those listed on price pages in order to meet nameplate rating and assure validity of warranty.

TEST-STANDARD

Each motor is given a routine test to determine that it is free from electrical or mechanical defects and to provide assurance that it meets design specifications. This test consists of: (Test data is not supplied to customer without additional charges.)

Neutral check
Winding resistance
Commutation check
High potential test
No-load test at base speed and maximum field weakened speed
Full-load test at base speed and maximum field weakened speed

VOLTAGE

Standard armature and shunt field voltages are indicated on the basic prices. Special voltage may be priced from the Modification Section.

ACCESSORIES AND MODIFICATIONS:

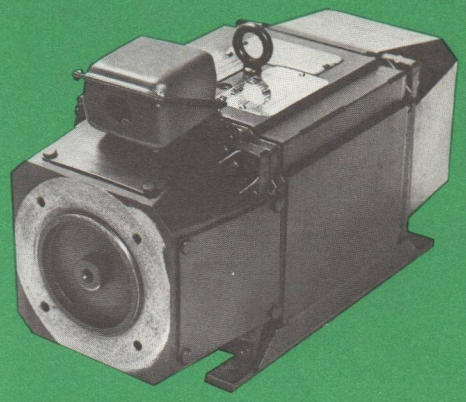
Accessories for Stock Motors

All stock motors for general application have a thermostat on the intercoil for detecting motor over-temperature. Also, all stock motors have an accessory C-Face on the commutator end bracket for adding tachometers. Tachometers can be installed by Reliance Electric or can be provided with mounting kits for customer installation.

Blowers with or without filter are carried in stock for modifying drip-proof self-ventilated motors making them capable of continuous constant torque operation over a wide speed range.

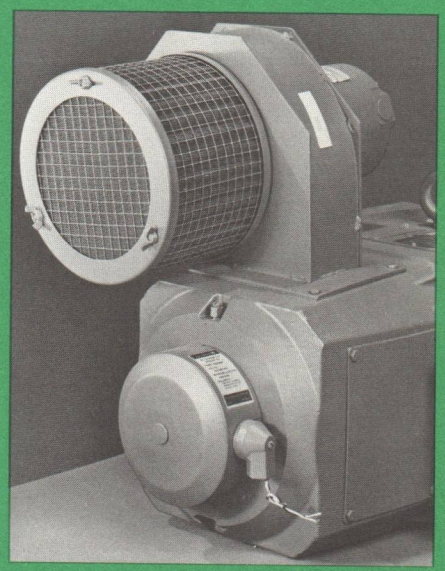
Versatile Pre-engineered Modifications

A complete line of modifications are available for production motors to meet special application requirements. The modification section of this catalog includes description and pricing on these additions to standard motors. Some of the modifications may be added to stock motors at Reliance Electric Modification Centers.



Accessory C-Face on Frame DB1810ATZ for adding tachometer. All frames have the same 56 C-Face "AJ" and "AK" dimensions.

Note: Protective cover to guard against contact with rotating shaft must be in place when tachometer is not mounted.



Frame B2810ATZ–DPFV with blower and filter and tachometer TGF 2100-00A.

GENERAL INFORMATION

FRAME NUMBERING SYSTEM

Integral horsepower motors with NEMA Standard dimensions use frame numbers 160 through 680. SUPER RPM frames carry Prefix "B" and Suffix "ATZ" indicating that mounting dimensions are standard except for the shaft dimensions which are larger than the same "AT" frame to handle the higher torques of these advanced design motors. Other Prefix and Suffix letter designations for SUPER RPM motors are as follows:

Prefix Letter	Variation
B	SUPER RPM frame (**Note:** RPM frame 326AT may have had an "A" or "B" prefix indicating that mounting dimensions are standard but overall lengths are different)
AB	SUPER RPM frame having a longer frame and longer overall length than a SUPER RPM frame without the "A" prefix. Mounting dimensions are standard.
BB	SUPER RPM frame having a longer bracket and longer overall length than a SUPER RPM frame without the first "B" prefix. Mounting dimensions are standard.
CB	SUPER RPM frame having longer frame, longer bracket and longer overall length than a SUPER RPM frame without the "C" prefix.
DB	SUPER RPM frame designed for selected ratings thru 5 hp. Overall length ("C" Dimension), conduit box position and bearing system differ from standard SUPER RPM frames.
EB	SUPER RPM frame totally enclosed dual cooled with air-to-air heat exchanger. Heat exchanger has specific dimensions as indicated on dimension sheet.
FB	SUPER RPM frame totally enclosed dual cooled with air-to-air heat exchanger. Heat exchanger has specific dimensions as indicated on dimension sheet.
UB	Frame designed for belted duty. Applicable to SUPER RPM frames UB400ATZ through UB580ATZ.
Suffix Letter	**Variation**
S	Standard short shaft for coupled duty only.
C or D	C-face or D-flange mounting on drive end.
FC or FD	C-face or D-flange mounting on end opposite drive.
V	Vertical mounting.
Y	Special mounting dimensions. Refer to dimension sheet.
Z	All mounting dimensions standard except the shaft dimensions.

ORDER CHECK LIST

**TO MAKE ORDERING OF MOTORS EASIER, PLEASE USE THIS CHECK LIST.
REFER TO GENERAL INFORMATION SECTION FOR STANDARD MOTOR FEATURES.**

1. Quantity
2. Frame
3. Horsepower
4. Speed (base rpm or base rpm/max. rpm)
5. Armature Voltage
6. Type of Armature Power supply — Specify NEMA Code — A, C, D, E, K
7. Shunt Field Voltage
8. Field Winding
   a. Motor — Stabilized shunt, straight shunt, compound, series, compensated
   b. Generator — Shunt (no stab), flat compound
9. Time Rating or Duty
10. Service factor
11. Ambient Temperature
12. Enclosure
13. Type of Bearings — A/F (Anti-friction ball bearings are standard)
14. Mounting
15. Conduit Box Location (Refer to Page 71)
16. Type of Connection to Load (belt, coupling, pinion)

    If Belt drive, specify the following data:

    ☐ V-Belt
    ☐ Timing Belt
    ☐ Flat Belt

    Motor Sheave Dia. _____
    No. & Size of Belts _____
    Axial Dist. Center Mtr. Sheave to End of Shaft _____
    Driven Sheave Dia. _____
    Center Dist. Between Sheaves _____
    Location of Driven Sheave with Respect to Motor Sheave _____
17. Slide Rails or Base (for belt drive)
18. Direction of Rotation (or reversing)
19. Modifications
20. Accessories
21. Purchase Order Number
22. Shipping Instructions

INDEX

The PRICING Section contains list prices and frame sizes for integral horsepower motors through 3000 hp. Ratings are grouped by enclosure, horsepower, armature voltage and duty. Features applicable to the basic motor are described in the GENERAL INFORMATION Section. Modifications to the basic motor may be priced from the MODIFICATION Section.

Motor Enclosure	Hp	Armature Volts	Duty	Pg.C-
DRIPPROOF-GUARDED				
Dripproof-Guarded	1–5	180	Continuous	28
Dripproof-Guarded	1–7½	240·500	Continuous	28
Dripproof-Guarded	10–250	240·500	Continuous	29
Forced Ventilated-Separately Ventilated	300–3000	500·600·700	Continuous	30, 31
TOTALLY ENCLOSED				
Non-Ventilated, Fan Cooled	1–5	180·240·500	Continuous	32
Fan Cooled	7½–75	240·500	Continuous	33
Fan Cooled, Dual Cooled	100–250	500	Continuous	33
Dual Cooled	300–3000	500·600·700	Continuous	34, 35
Non-Ventilated	1–30	240·500	Continuous	38
Non-Ventilated	1–150	240·500	30 Minute	39
Non-Ventilated	1–125	240·500	60 Minute	40
TOTALLY ENCLOSED, EXPLOSION-PROOF				
Explosion-Proof Motor Availability	3/4–200	—	—	36
Non-Ventilated, Fan Cooled	3/4–5	180·240	Continuous	36
Fan Cooled	7½–200	240·500	Continuous	37

RELIANCE ELECTRIC

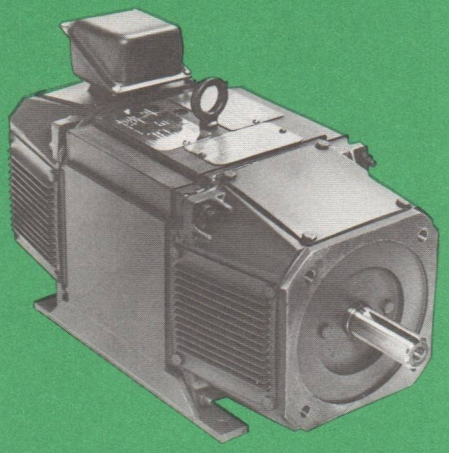
SUPER RPM D-C MOTORS

INTEGRAL HP.

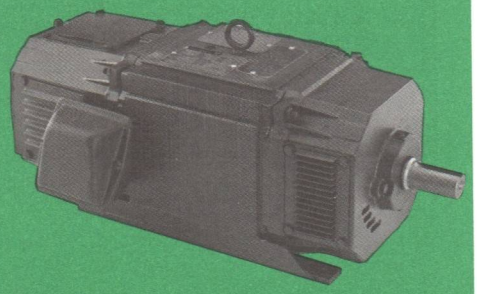
DRIPPROOF GUARDED

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.



DPG DB1810ATCZ rated 5hp at 1750 rpm.



DPG B1812ATZ rated 10hp at 1750 rpm.

1-5 HP.

180V Armature • 100V or 200V Field • Power Code K

HP	Base Speed	Nominal by Field Control	Basic List Price (4)	DPG Frame
1	1750	1750	$ 986	DB1810ATZ
	1150	1150	1125	DB1810ATZ
	850	1020	1328	DB1810ATZ
1½	3500	3500	1720	B1811ATZ
	2500	2500	998	DB1810ATZ
	1750	1750	1121	DB1810ATZ
	1150	1380	1328	DB1810ATZ
	850	1020	2282	DB1810ATZ
2	3500	3500	1720	B1811ATZ
	2500	2500	1094	DB1810ATZ
	1750	1750	1250	DB1810ATZ
	1150	1380	1560	DB1810ATZ
	850	1020	2424	B1811ATZ
3	3500	3500	$1750	B1811ATZ
	2500	2500	1281	DB1810ATZ
	1750	1750	1539	DB1810ATZ ◆ (3)
	1150	1380	2370	DB1811ATZ
	850	1020	2889	B2111ATZ
	650	1000	3410	B2112ATZ
5	3500	3500	1890	B1811ATZ
	2500	2500	1773	DB1810ATZ
	1750	1835	2457	DB1810ATZ ◆ (3)
	1150	1380	3032	B2111ATZ
	850	1020	3632	B2510ATZ
	650	1000	4373	B2510ATZ

1-7½ HP.

240V Armature • 150V or 240V Field • Power Code C (1)

HP	Base Speed	Nominal by Field Control	Basic List Price (4)	DPG Frame
1	1750	1950	$ 986	DB1810ATZ
	1150	1380	1125	DB1810ATZ
	850	1020	1328	DB1810ATZ
1½	3500	3500	1720	B1811ATZ
	2500	2875	998	DB1810ATZ
	1750	1950	1121	DB1810ATZ
	1150	1380	1328	DB1810ATZ
	850	1020	2282	DB1810ATZ
2	3500	3500	1720	B1811ATZ
	2500	2800	1094	DB1810ATZ
	1750	1950	1250	DB1810ATZ
	1150	1380	1560	DB1810ATZ
	850	1020	2424	B1811ATZ
3	3500	3500	1750	B1811ATZ
	2500	2800	1281	DB1810ATZ
	1750	1950	1539	DB1810ATZ
	1150	1380	2370	DB1810ATZ
	850	1020	2889	B1812ATZ
	650	1600	3410	B2112ATZ
	500	1500	4112	B2510ATZ
	400	1200	4833	B2811ATZ
	300	900	5718	B2811ATZ
5	3500	3500	$1890	B1811ATZ
	2500	2875	1773	B1811ATZ ▲
	1750	1950	2457	B1811ATZ ◆
	1150	1380	3032	B1812ATZ ▲
	850	1020	3632	B2111ATZ
	650	1600	4373	B2510ATZ
	500	1500	5202	B2511ATZ
	400	1200	6285	B2811ATZ
	300	900	7343	B328ATZ
7½	3500	3500	2168	B1811ATZ
	2500	2875	2516	B1811ATZ ▲
	1750	1950	2997	B1811ATZ ◆
	1150	1380	3659	B2111ATZ ▲
	850	1020	4341	B2510ATZ
	650	1600	5250	B2810ATZ
	500	1500	6278	B2811ATZ
	400	1200	7694	(2)
	300	900	9188	(2)

1-7½ HP.

500V Armature • 240V or 300V Field • Power Code C (1)

HP	Base Speed	Nominal by Field Control	Basic List Price (4)	DPG Frame
1	1750	1950	$1769	B1811ATZ
	1150	1380	1790	B1811ATZ
	850	1020	2511	B1811ATZ
1½	1750	1950	1769	B1811ATZ
	1150	1380	1790	B1811ATZ
	850	1020	2511	B1811ATZ
2	2500	2875	1769	B1811ATZ
	1750	1950	1769	B1811ATZ
	1150	1380	1790	B1811ATZ
	850	1020	2654	B1811ATZ
3	2500	2875	1769	B1811ATZ
	1750	1950	1769	B1811ATZ
	1150	1380	2600	B1811ATZ
	850	1020	3275	B1812ATZ
	650	1000	4020	B2510ATZ
5	2500	2875	$2003	B1811ATZ
	1750	1950	2687	B1811ATZ ▲
	1150	1380	3416	B1812ATZ
	850	1020	4017	B2111ATZ
	650	1000	4910	B2511ATZ
7½	2500	2875	2516	B1811ATZ
	1750	1950	2997	B1811ATZ ▲
	1150	1380	3659	B2111ATZ
	850	1020	4341	B2510ATZ
	650	1600	5250	B2810ATZ
	500	1500	6278	(2)
	400	1200	7694	(2)
	300	900	9188	(2)

FOOTNOTES:

(1) Motors rated 1—150 hp at 1750, 1150 and 850 rpm base speed will operate on Power Code D without external choke or reactor. Other ratings may require choke on Power Code D. Refer to Reliance. Refer to Mod. 425 for motors used on Power Code E or Reliance S3R.

(2) Refer to Reliance Electric for frame.

(3) Stock 180 volt armature motors have straight shunt winding, i.e., no series field, for motors having a field weakened speed not greater than 105% base speed.

(4) Basic List applies to frames listed.

◆ Model number motor normally carried in stock. Blower and Tachometer modifications may be added.

▲ Model number assigned.

DISCOUNT — RM072

DRIPPROOF GUARDED

10–250 HP.

240V Armature • 150V or 240V Field • Power Code C ①
500V Armature • 240V or 300V Field • Power Code C ①

HP	Speed, rpm Base Speed	Speed, rpm Nominal by Field Control ①	Basic List Price ⑧	DPG Frame 240V	DPG Frame 500V
10	3500	3500	$ 2,826	B1811ATZ	B1811ATZ
	2500	2875	2,894	B1811ATZ ▲	B1811ATZ
	1750	1950	3,437	B1812ATZ ◆	B1812ATZ ◆
	1150	1380	4,179	B2112ATZ ▲	B2112ATZ
	850	1020	4,995	B2511ATZ	B2511ATZ
	650	1600	6,143	B2810ATZ	B2810ATZ
	500	1500	7,275	②	—
	400	1200	8,958	②	—
	300	900	10,758	②	—
15	3500	3500	3,447	B1811ATZ	B1811ATZ
	2500	2875	3,510	B1812ATZ ▲	B1812ATZ
	1750	1950	4,166	B2111ATZ ◆	B2111ATZ ◆
	1150	1380	5,124	B2511ATZ ▲	B2511ATZ
	850	1020	6,110	B2810ATZ	B2810ATZ
	650	1600	7,595	B327ATZ	B327ATZ
	500	1500	9,099	B328ATZ	—
	400	1200	10,976	B369ATZ	—
	300	900	13,518	②	—
20	3500	3500	4,089 ④	B2111ATZ	④
	2500	2875	4,044	B2111ATZ ▲	B2111ATZ
	1750	1950	4,800	B2112ATZ ◆	B2112ATZ ◆
	1150	1380	5,954	B2810ATZ ▲	B2180ATZ
	850	1020	7,304	B2811ATZ	B2811ATZ
	650	1600	9,045	AB328ATZ	AB328ATZ ⑤
	500	1500	10,754	AB328ATZ ⑤	—
	400	1200	13,076	②	—
	300	900	15,821	B368ATZ ⑤	—
25	3500	3500	4,557 ④	B2122ATZ	④
	2500	2875	4,487	B2112ATZ	B2112ATZ
	1750	1950	5,421	B2510ATZ ◆	B2510ATZ ◆
	1150	1380	6,852	B2810ATZ ▲	B2810ATZ
	850	1020	8,337	B327ATZ	B327ATZ
	650	1600	10,362	B367ATZ	B367ATZ
	500	1500	12,326	B369ATZ	—
	400	1200	14,945	B3610ATZ ⑤	—
	300	900	17,798	B409ATZ	
30	3500	3500	5,210 ④	B2510ATZ	④
	2500	2875	4,932	B2510ATZ ▲	B2510ATZ
	1750	1950	5,981	B2511ATZ ◆	B2511ATZ ◆
	1150	1380	7,581	B2811ATZ ▲	B2811ATZ ◆
	850	1020	9,269	B328ATZ	AB328ATZ
	650	1600	11,408	B368ATZ	B368ATZ
	500	1500	13,676	B3610ATZ	—
	400	1200	16,461	B408ATZ	—
	300	900	20,120	B409ATZ ⑤	—
40	3500	3500	6,002 ④	B2510ATZ	④
	2500	2875	5,763	B2511ATZ	B2511ATZ
	1750	1950	7,061	B2810ATZ ◆	B2810ATZ ◆
	1150	1380	9,032	B327ATZ ▲	B327ATZ ◆
	850	1020	11,037	B367ATZ	B367ATZ
	650	1000	13,500	B367ATZ ⑤	B3610ATZ
	500	1500	16,293 ④	B3610ATZ ⑤	④
	400	1200	19,418 ④	B408ATZ ⑤	④
	300	900	23,873 ④	B409ATZ ⑤	④
50	3500	3500	7,535	B2810ATZ	B2810ATZ
	2500	2875	6,858	B2810ATZ	B2810ATZ
	1750	1950	8,085	B2811ATZ	B2811ATZ ◆
	1150	1380	10,422	AB328ATZ	AB328ATZ ◆
	850	1020	12,812	B368ATZ	B369ATZ
	650	1300	15,225	B368ATZ ⑤	B408ATZ
	500	1500	18,671	B409ATZ	②
	400	1200	22,307	②	②
	300	900	27,210 ④	B4010ATZ ⑤	④

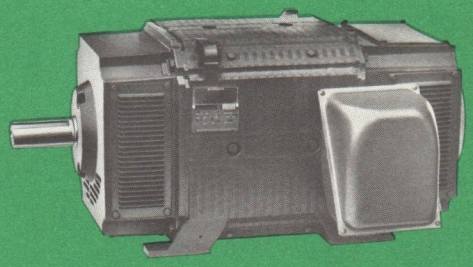
HP	Speed, rpm Base Speed	Speed, rpm Nominal by Field Control ①	Basic List Price ⑧	DPG Frame 240V	DPG Frame 500V
60	3500	3500	$ 8,804	B2810ATZ	B2810ATZ
	2500	2875	8,004	B2811ATZ	B2811ATZ
	1750	1950	9,275	B327ATZ	B327ATZ ◆
	1150	1380	11,928	B367ATZ	B368ATZ ◆
	850	1020	14,561	B3610ATZ	B3610ATZ
	650	1600	17,483	②	B408ATZ
	500	1500	21,153 ④	B409ATZ ⑤	④
	400	1200	25,016 ④	B4010ATZ ⑤	④
	300	900	30,389 ④	B507ATZ ⑤	④
75	3500	—	11,255 ⑥	⑥	②
	2500	2875	10,205	BB327ATZ	B327ATZ
	1750	1950	10,922	BB328ATZ	B328ATZ ◆
	1150	1380	14,048	BB368ATZ	B368ATZ ◆
	850	1020	16,731	②	B408ATZ
	650	1600	20,420	B409ATZ	B409ATZ
	500	1500	24,393	B4010ATZ ⑤	B4010ATZ ⑤
	400	1200	28,740 ④	B4010ATZ ⑤	④
	300	900	35,793 ④	B508ATZ ⑤	④
100	4000	4000	20,225 ⑤⑥	⑥	B328ATZ ⑤
	3500	3500	16,484 ⑥	⑥	B328ATZ
	2500	2500	15,110 ⑥	⑥	②
	1750	2000	13,737	BB367ATZ	B367ATZ ◆
	1150	1380	17,199	BB3610ATZ	B3610ATZ ◆
	850	1020	20,183	②	B409ATZ
	650	1600	24,470	B4010ATZ ⑤	B409ATZ ⑤
	500	1500	20,916	B4010ATZ ⑤	B4010ATZ ⑤
	400	1200	35,199 ⑤	B508ATZ ⑤	B508ATZ ⑤
	300	900	42,300 ⑤⑥	⑥	B587ATZ ⑤
125	3400	3400	19,718 ⑥	⑥	②
	2500	2500	17,925 ⑥	⑥	B368ATZ
	1750	2000	16,295	BB368ATZ	B369ATZ ◆
	1150	1380	20,183	②	B408ATZ ◆
	850	1020	23,652	B409ATZ ⑤	B409ATZ ⑤
	650	1600	28,182	B4010ATZ ⑤	B4010ATZ ⑤
	500	1500	34,632 ⑤⑥	⑥	B508ATZ ⑤
	400	1200	40,350 ⑤⑥	⑥	B587ATZ ⑤
	300	900	47,816 ⑤⑥	⑥	B588ATZ ⑤
150	3400	3400	24,920 ⑤⑥	⑥	BB367ATZ ⑤
	2500	2500	21,655 ⑥	⑥	②
	1750	2000	18,779 ⑥	⑥	B3610ATZ ◆
	1150	1380	23,228 ⑥	⑥	B409ATZ ◆
	850	1020	26,778 ⑥	⑥	B4010ATZ ⑤
	650	1600	31,733 ⑤	B508ATZ ⑤	B507ATZ ⑤
	500	1500	39,117 ⑤⑥	⑥	B587ATZ ⑤
	400	1200	44,406 ⑤⑥	⑥	B587ATZ ⑤
	300	900	53,312 ⑤⑥	⑥	B589ATZ ⑤
200	1750	1900	23,855 ⑥	⑥	B408ATZ ◆
	1150	1380	28,782 ⑥	⑥	B4010ATZ◆⑤
	850	1020	32,826 ⑥	⑥	B507ATZ ⑤
	650	1600	38,996 ⑤⑥	⑥	B587ATZ ⑤
	500	1500	46,359 ⑤⑥	⑥	B588ATZ ⑤
	400	1200	53,391 ⑤⑥	⑥	B589ATZ ⑤
	300	900	63,165 ⑤⑥	⑥	B687ATZ ⑤
250	1750	1750	29,363 ⑥	⑥	B409ATZ ◆
	1150	1380	34,595 ⑤	⑥	B507ATZ ⑤ *
	850	1020	39,065 ⑤	⑥	B508ATZ ⑤
	650	1600	44,213 ⑤	⑥	B588ATZ ⑤
	500	1400	55,457 ⑤	⑥	B589ATZ ⑤
	400	1200	62,145 ⑤	⑥	B687ATZ ⑤
	300	900	72,732 ⑤	⑥	B688ATZ ⑤

DISCOUNT — RM072

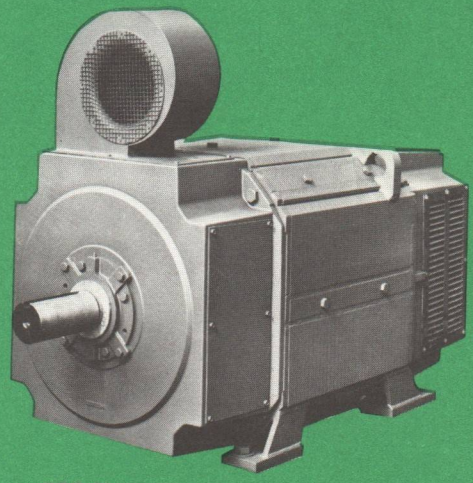
RELIANCE ELECTRIC

SUPER RPM D-C MOTORS
INTEGRAL HP.

FEATURES:
CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.



DPG B3610ATZ motor rated 150hp at 1750 rpm.



DPG-FV B508ATZ motor (without filter) rated 500hp at 1750 rpm.

FOOTNOTES:

① Motors rated 1 — 150 hp at 1750, 1150 and 850 rpm base speed will operate on power code D without external choke or reactor. Other ratings may require choke on power code D. Refer to Mod. 425 for motors used on power code E or Reliance S3R.

② Refer to Reliance Electric for Frame.

④ Price is 240V rating only; refer to Reliance Electric for 500V frame and price.

⑤ Forced ventilation construction is standard. Motor mounted blower without filter with motor for 3-phase, 60 Hz, 230/460 volts a-c power supply is included in list price. Motor must have cooling air supplied when fields are excited at rated voltage.

⑥ Price is 500V rating only; refer to Reliance Electric for 240V frame and price.

⑧ Basic List Price applies to frames listed.

◆ Model number motor normally carried in stock — Blower and Tachometer modifications may be added.

▲ Model number assigned.

* Model number motor with blower and filter normally carried in stock — Tachometer may be added

DRIPPROOF-GUARDED FORCED-VENTILATED OR DRIPPROOF-GUARDED SEPARATELY-VENTILATED

300—3000 HP

500V Armature • 300-1000 HP (As Indicated) • Power Code C
600V Armature • 1100-1500 HP (As Indicated) • Power Code 6/6-550-60-0
700V Armature • 1500-3000 HP (As Indicated) • Power Code 6/6-636-60-0

HP	Base Speed	Nominal Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	Nominal Field Weakened Speed (rpm) ⑦ Reversing Duty	Armature Volts	1.0 Service Factor Frame	ENCLOSURE Dripproof Guarded Forced Ventilated (DPG-FV) Separately Ventilated (DPG-SV)	WINDING Stabilized Shunt (Stab. Shunt) Straight Shunt Compensated (Str. Shunt C.)	Basic List Price for Nominal Field Weakened Speed ③	Discount	EXTENDED FIELD RANGE: Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	EXTENDED FIELD RANGE: Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Reversing Duty	EXTENDED FIELD RANGE: ⑥⑦ Winder Duty Maximum Field Weakened Speed (rpm)	EXTENDED FIELD RANGE: Percentage Addition to Basic Motor Price for Maximum Field Weakened Speed ⑤
300	1750	1900	1900	500	B4010ATZ*	DPG-FV①	Stab. Shunt	$ 35,235	RM072	2400	2400	—	20
	1150	1600	1600	500	B508ATZ*	DPG-FV①	Stab. Shunt	40,602	RM072	2300	2300	—	10
	850	1500	1500	500	B587ATZ	DPG-FV①	Stab. Shunt	45,563	RM072	2200	2200	—	20
	650	1500	1500	500	B589ATZ	DPG-FV①	Stab. Shunt	50,423	RM072	1850	1850	2100	10
	500	1300	1300	500	B686ATZ	DPG-SV②	Stab. Shunt	60,708	RM073	1800	1800	2000	10
	400	1200	1200	500	B688ATZ	DPG-SV②	Stab. Shunt	69,822	RM073	1500	1500	2100	10
	300	1090	980	500	B843AT	DPG-SV②	Stab. Shunt	81,512	RM073	1320	1200	1500	10
400	1750	1900	1900	500	B507ATZ*	DPG-FV①	Stab. Shunt	49,005	RM072	2400	2400	—	20
	1150	1500	1500	500	B587ATZ*	DPG-FV①	Stab. Shunt	53,865	RM072	2200	2200	—	10
	850	1500	1500	500	B588ATZ	DPG-FV①	Stab. Shunt	58,725	RM072	1750	1750	—	10
	650	1400	1400	500	B686ATZ	DPG-SV②	Stab. Shunt	63,045	RM073	1850	1850	2000	15
	500	1290	1290	500	B688ATZ	DPG-SV②	Stab. Shunt	70,920	RM073	1400	1400	2100	10
	400	1200	1080	500	B843AT	DPG-SV②	Stab. Shunt	83,186	RM073	1320	1200	1600	10
	300	1020	920	500	B845AT	DPG-SV②	Stab. Shunt	100,205	RM073	1320	1200	1500	10
500	1750	1900	1900	500	B508ATZ*	DPG-FV①	Stab. Shunt	65,656	RM072	2000	2000	—	10
	1150	1500	1500	500	B588ATZ*	DPG-FV①	Stab. Shunt	69,020	RM072	2000	2000	—	10
	850	1400	1400	500	B589ATZ	DPG-FV①	Stab. Shunt	73,407	RM072	1600	1600	—	10
	650	1400	1400	500	B688ATZ	DPG-FV①	Stab. Shunt	76,644	RM072	1500	1500	1900	10
	500	1220	1100	500	B843AT	DPG-SV②	Stab. Shunt	83,343	RM073	1375	1250	1750	10
	400	1110	1000	500	B844AT	DPG-SV②	Stab. Shunt	100,272	RM073	1200	1100	1600	10
	300	960	860	500	B846AT	DPG-SV②	Stab. Shunt	114,228	RM073	1230	1120	1500	10
600	1750	1750	1900	500	B587ATZ	DPG-FV①	Stab. Shunt	90,788	RM072	—	—	—	—
	1150	1500	1500	500	B589ATZ	DPG-FV①	Stab. Shunt	100,832	RM072	—	—	—	—
	850	1300	1300	500	B687ATZ	DPG-SV②	Stab. Shunt	101,808	RM073	1450	1450	—	15
	650	1330	1200	500	B842AT	DPG-SV②	Stab. Shunt	111,464	RM073	1540	1400	1800	15
	500	1160	1040	500	B843AT	DPG-SV②	Stab. Shunt	124,484	RM073	1375	1250	1750	15
	400	1060	950	500	B846AT	DPG-SV②	Stab. Shunt	133,317	RM073	1200	1080	1600	10
	300	910	820	500	B847AT	DPG-SV②	Str. Shunt C.	145,421	RM073	1000	910	1350	10
700	1150	1300	1300	500	B686ATZ	DPG-FV①	Stab. Shunt	112,082	RM072	1600	1600	—	10
	850	1370	1370	500	B688ATZ	DPG-FV①	Stab. Shunt	113,124	RM072	—	—	—	—
	650	1270	1140	500	B842AT	DGP-SV②	Stab. Shunt	125,630	RM073	1430	1300	1800	15
	500	1110	1000	500	B844AT	DPG-SV②	Stab. Shunt	136,890	RM073	1265	1150	1500	10
	400	1010	910	500	B846AT	DPG-SV②	Stab. Shunt	145,719	RM073	1020	940	1500	10
	300	870	780	500	B946AT	DPG-SV②	Str. Shunt C.	163,119	RM073	1200	1080	1200	10
800	1150	1250	1250	500	B687ATZ	DPG-FV①	Stab. Shunt	123,624	RM072	1350	1350	—	5
	850	1320	1190	500	B842AT	DPG-SV②	Stab. Shunt	124,815	RM073	1595	1435	—	15
	650	1220	1100	500	B843AT	DPG-SV②	Stab. Shunt	137,673	RM073	1300	1170	1800	10
	500	1070	965	500	B845AT	DPG-SV②	Str. Shunt C.	148,494	RM073	1100	990	1500	0
	400	970	875	500	B847AT	DPG-SV②	Str. Shunt C.	158,828	RM073	1000	900	1500	0
	300	830	745	500	B965AT	DPG-SV②	Str. Shunt C.	177,791	RM073	1050	945	1200	10
900	1150	1250	1125	500	B842AT	DPG-SV②	Str. Shunt C.	138,063	RM073	1400	1260	—	5
	850	1270	1145	500	B842AT	DPG-SV②	Stab. Shunt	139,149	RM073	1400	1260	—	10
	650	1170	1055	500	B844AT	DPG-SV②	Stab. Shunt	149,345	RM073	1300	1170	1750	10
	500	1030	930	500	B846AT	DPG-SV②	Stab. Shunt	159,321	RM073	1100	990	1350	5
	400	930	839	500	B946AT	DPG-SV②	Str. Shunt C.	169,650	RM073	1200	1080	1400	10
	300	805	724	500	B966AT	DPG-SV②	Str. Shunt C.	189,806	RM073	900	810	1200	10
1000	1150	1250	1125	500	B842AT	DPG-SV②	Str. Shunt C.	149,904	RM073	1350	1215	—	5
	850	1220	1100	500	B843AT	DPG-SV②	Str. Shunt C.	150,843	RM073	—	—	—	—
	650	1130	1020	500	B845AT	DPG-SV②	Str. Shunt C.	160,439	RM073	—	—	1450	5
	500	990	900	500	B847AT	DPG-SV②	Str. Shunt C.	171,477	RM073	—	—	1350	5
	400	900	810	500	B965AT	DPG-SV②	Str. Shunt C.	181,593	RM073	1160	—	1200	10
	300	780	700	700	——	DPG-SV②	Str. Shunt C.	203,274	RM073	—	—	—	—
1250	1150	1250	1125	600	B843AT	DPG-SV②	Str. Shunt C.	179,172	RM073	1300	1170	—	5
	850	1120	1010	600	B845AT	DPG-SV②	Str. Shunt C.	180,111	RM073	—	—	—	—
	650	1030	927	600	B847AT	DPG-SV②	Str. Shunt C.	189,972	RM073	—	—	1400	10
	500	920	828	600	B966AT	DPG-SV②	Str. Shunt C.	199,961	RM073	1035	930	1250	10
	400	830	747	600	B966AT	DPG-SV②	Str. Shunt C.	211,757	RM073	960	860	1200	10
	300	720	648	700	B1209AT	DPG-SV②	Str. Shunt C.	237,041	RM073	1010	—	1010	5

▲ DISCOUNT

DRIPPROOF-GUARDED FORCED VENTILATED OR DRIPPROOF-GUARDED SEPARATELY-VENTILATED

1500—3000 HP

HP	Base Speed	Nominal Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	Nominal Field Weakened Speed (rpm) ⑦ Reversing Duty	Armature Volts	1.0 Service Factor Frame	ENCLOSURE Dripproof Guarded Forced Ventilated (DPG-FV) Separately Ventilated (DPG-SV)	WINDING Stabilized Shunt (Stab. Shunt) Straight Shunt Compensated (Str. Shunt C.)	Basic List Price for Nominal Field Weakened Speed ③	Discount	EXTENDED FIELD RANGE: Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	EXTENDED FIELD RANGE: Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Reversing Duty	EXTENDED FIELD RANGE: ⑥⑦ Winder Duty Maximum Field Weakened Speed (rpm)	EXTENDED FIELD RANGE: Percentage Addition to Basic Motor Price for Maximum Field Weakened Speed ⑤
1500	1150	1250	1125	600	B962AT	DPG-SV ②	Str. Shunt C.	$ 206,591	RM073	1350	1215	—	5
	850	1030	925	600	B962AT	DPG-SV ②	Str. Shunt C.	206,591	RM073	1200	1080	—	10
	650	960	865	600	B964AT	DPG-SV ②	Str. Shunt C.	218,030	RM073	1170	1050	1300	10
	500	850	765	600	B966AT	DPG-SV ②	Str. Shunt C.	229,586	RM073	1000	900	1250	10
	400	770	693	700	B1208AT	DPG-SV ②	Str. Shunt C.	243,131	RM073	1100	—	—	5
	300	670	603	700	B1408AT	DPG-SV ②	Str. Shunt C.	357,260	RM073	1045	—	—	4
1750	1150	1250	1125	700	B1202AT	DPG-SV ②	Str. Shunt C.	231,500	RM073	1500	1350	—	5
	850	960	865	700	B1202AT	DPG-SV ②	Str. Shunt C.	232,700	RM073	1200	1080	—	5
	650	900	810	700	B1204AT	DPG-SV ②	Str. Shunt C.	245,447	RM073	1000	950	1300	4
	500	800	720	700	B1208AT	DPG-SV ②	Str. Shunt C.	258,456	RM073	—	—	—	—
	450	760	684	700	B1405AT	DPG-SV ②	Str. Shunt C.	266,780	RM073	—	—	—	—
	400	720	648	700	B1406AT	DPG-SV ②	Str. Shunt C.	273,704	RM073	—	—	—	—
	350	670	603	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
	300	630	567	700	B1409AT	DPG-SV ②	Str. Shunt C.	382,600	RM073	—	—	—	—
	250	575	518	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
2000	1150	1250	1125	700	B1202AT	DPG-SV ②	Str. Shunt C.	253,960	RM073	1360	1225	—	4
	850	960	865	700	B1204AT	DPG-SV ②	Str. Shunt C.	255,830	RM073	1235	1110	—	4
	650	840	755	700	B1206AT	DPG-SV ②	Str. Shunt C.	269,843	RM073	1115	1000	1300	4
	500	750	675	700	B1406AT	DPG-SV ②	Str. Shunt C.	284,147	RM073	—	—	—	—
	450	720	648	700	B1407AT	DPG-SV ②	Str. Shunt C.	341,500	RM073	—	—	—	—
	400	675	608	700	B1408AT	DPG-SV ②	Str. Shunt C.	364,000	RM073	—	—	—	—
	350	630	567	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
	300	590	531	700	B1604AT	DPG-SV ②	Str. Shunt C.	436,005	RM073	—	—	—	—
	250	540	486	700	B1606AT	DPG-SV ②	Str. Shunt C.	489,300	RM073	—	—	—	—
	225	515	464	700	B1607AT	DPG-SV ②	Str. Shunt C.	552,680	RM073	—	—	—	—
	200	485	437	700	B1609AT	DPG-SV ②	Str. Shunt C.	603,870	RM073	—	—	—	—
	175	450	405	700	B1610AT	DPG-SV ②	Str. Shunt C.	640,230	RM073	—	—	—	—
2250	1150	1250	1125	700	B1401AT	DPG-SV ②	Str. Shunt C.	285,000	RM073	1460	1315	—	3
	850	960	865	700	B1403AT	DPG-SV ②	Str. Shunt C.	290,000	RM073	1345	1210	—	3
	650	795	715	700	B1405AT	DPG-SV ②	Str. Shunt C.	304,000	RM073	1140	1025	1300	3
	500	710	639	700	B1407AT	DPG-SV ②	Str. Shunt C.	333,000	RM073	—	—	—	—
	450	680	612	700	B1407AT	DPG-SV ②	Str. Shunt C.	357,000	RM073	—	—	—	—
	400	640	576	700	B1409AT	DPG-SV ②	Str. Shunt C.	400,000	RM073	—	—	—	—
	350	600	540	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
	300	560	504	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
	250	515	464	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
	200	490	441	700	⑧	DPG-SV ②	Str. Shunt C.	⑧	RM073	—	—	—	—
2500	1150	1250	1125	700	B1401AT	DPG-SV ②	Str. Shunt C.	310,000	RM073	1375	1235	—	3
	850	935	840	700	B1403AT	DPG-SV ②	Str. Shunt C.	316,000	RM073	1255	1130	—	3
	650	750	675	700	B1405AT	DPG-SV ②	Str. Shunt C.	331,000	RM073	1065	960	1300	3
	500	675	608	700	B1407AT	DPG-SV ②	Str. Shunt C.	348,000	RM073	—	—	—	—
	450	650	585	700	B1408AT	DPG-SV ②	Str. Shunt C.	388,000	RM073	—	—	—	—
	400	600	540	700	B1409AT	DPG-SV ②	Str. Shunt C.	430,000	RM073	—	—	—	—
	350	570	513	700	B1604AT	DPG-SV ②	Str. Shunt C.	472,980	RM073	—	—	—	—
	300	535	482	700	B1606AT	DPG-SV ②	Str. Shunt C.	490,000	RM073	—	—	—	—
	250	490	441	700	B1608AT	DPG-SV ②	Str. Shunt C.	555,100	RM073	—	—	—	—
	225	470	423	700	B1609AT	DPG-SV ②	Str. Shunt C.	607,820	RM073	—	—	—	—
3000	850	935	840	700	B1601AT	DPG-SV ②	Str. Shunt C.	365,000	RM073	1100	990	—	3
	650	715	645	700	B1602AT	DPG-SV ②	Str. Shunt C.	382,000	RM073	1000	990	1200	3
	500	610	549	700	B1603AT	DPG-SV ②	Str. Shunt C.	416,300	RM073	—	—	—	—
	450	585	527	700	B1604AT	DPG-SV ②	Str. Shunt C.	450,000	RM073	—	—	—	—
	400	540	486	700	B1605AT	DPG-SV ②	Str. Shunt C.	501,000	RM073	—	—	—	—
	350	510	459	700	B1606AT	DPG-SV ②	Str. Shunt C.	539,620	RM073	—	—	—	—
	300	490	441	700	B1608AT	DPG-SV ②	Str. Shunt C.	566,000	RM073	—	—	—	—
	250	450	405	700	B1610AT	DPG-SV ②	Str. Shunt C.	601,340	RM073	—	—	—	—

FOOTNOTES:

① Enclosure is Dripproof Guarded-Force Ventilated (DPG-FV). Motor mounted blower without filter with motor for 3-phase, 50/60 Hz, 230/460 Volts a-c power supply is included in listed price. Motor must have cooling air supplied when fields are excited at rated voltage.

② Enclosure is either Dripproof Separately-ventilated (DPG-SV) or Enclosed Separately-ventilated with both pipe-in and pipe-out air. If required, add Mod. 130 or Mod. 131 for motor mounted blowers with or without filter. Motor must have cooling air supplied when fields are excited at rated voltage.

③ Basic List Price applies to Nominal Field Weakened Speed either Non-reversing or Reversing Duty

⑤ Percentage Addition to Basic Motor applies to either Continuous Duty Maximum Field Weakened Speed or Winder Duty Maximum Field Weakened.

⑥ Motor must be speed regulated and/or speed limit switch (Mod. 290) must be included to limit speed on winder duty.

⑦ Motor speed under any condition must not exceed maximum safe speed listed in General Features Section.

⑧ Refer to Reliance Electric for price and frame size.

* Model number motor with blower and filter normally carried in stock. Tachometer may be added.

DISCOUNT

FEATURES:
1.0 SERVICE FACTOR
CONTINUOUS DUTY
40° C AMBIENT
CLASS F INSULATION
240V OR 300V FIELD
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.

RELIANCE ELECTRIC

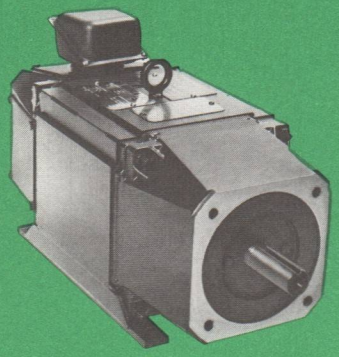
SUPER RPM D-C MOTORS

INTEGRAL HP.

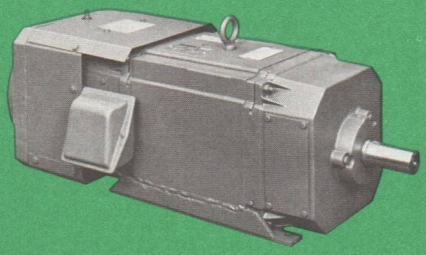
TOTALLY ENCLOSED

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND ③
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.



TENV DB1811ATCZ motor rated 3hp at 1750 rpm.



TEFC B2511ATZ motor rated 15hp at 1750 rpm.

1–5 HP.

180V Armature • 100V or 200V Field • Power Code K

HP	Base Speed rpm	180V ARMATURE Nominal by Field Control	Basic List Price ⑧	TE Frame	Enclosure
1	1750	1750	**$1418**	DB1810ATZ	TENV
	1150	1150	**1566**	DB1810ATZ	TENV
	850	1020	**1866**	DB1811ATZ	TENV
	650	1300	**3411**	DB1811ATZ	TENV
1½	3500	3500	**1867**	B1811ATZ	TENV
	2500	2500	**1544**	DB1810ATZ	TENV
	1750	1750	**1584**	DB1810ATZ	TENV
	1150	1380	**1866**	DB1810ATZ	TENV
	850	1020	**3180**	DB1811ATZ	TENV
	650	1300	**5110**	B2112ATZ	TENV
2	3500	3500	**1892**	B1811ATZ	TENV
	2500	2500	**1697**	DB1810ATZ	TENV
	1750	1750	**1742**	DB1810ATZ ◆	TENV ③
	1150	1380	**2174**	DB1811ATZ	TENV
	850	1020	**3753**	B2111ATZ	TEFC
	650	1300	**5330**	B2510ATZ	TENV

HP	Base Speed rpm	180V ARMATURE Nominal by Field Control	Basic List Price ⑧	TE Frame	Enclosure
3	3500	3500	**$2140**	B1812ATZ	TENV
	2500	2750	**2093**	DB1811ATZ	TENV
	1750	2050	**2147**	DB1811ATZ ◆	TENV ③
	1150	1380	**3495**	B1812ATZ	TEFC
	850	1020	**4400**	B2510ATZ	TEFC
	650	1000	**5800**	B2511ATZ	TENV
5	3500	3500	**2950**	B2112ATZ	TENV
	2500	2750	**3380**	B2112ATZ	TENV
	1750	2050	**3801**	B2112ATZ ◆	TENV ③
	1150	1380	**4382**	B2510ATZ	TEFC
	850	1020	**5624**	B2810ATZ	TEFC
	650	1000	**6830**	B2810ATZ	TENV

240V Armature • 150V or 240V Field • Power Code C ①

HP	Base Speed rpm	240V ARMATURE ① Nominal by Field Control	Basic List Price ⑧	TE Frame	Enclosure
1	1750	1950	**$1418**	DB1810ATZ	TENV
	1150	1380	**1566**	DB1810ATZ	TENV
	850	1020	**1866**	DB1810ATZ	TENV
	650	1600	**3411**	DB1811ATZ	TENV
	500	1500	**3965**	②	—
	400	1200	**4548**	②	—
1½	3500	3500	**1782**	B1811ATZ	TENV
	2500	2875	**1544**	DB1810ATZ	TENV
	1750	1950	**1584**	DB1810ATZ	TENV
	1150	1380	**1866**	DB1810ATZ	TENV
	850	1020	**3180**	DB1811ATZ	TENV
	650	1600	**3866**	B2112ATZ	TENV
	500	1500	**4464**	②	—
	400	1200	**5229**	②	—
2	3500	3500	**1806**	B1811ATZ	TENV
	2500	2875	**1697**	DB1810ATZ	TENV
	1750	1950	**1742**	DB1810ATZ	TENV
	1150	1380	**2174**	DB1811ATZ	TENV
	850	1020	**3504**	B1812ATZ	TEFC
	650	1600	**4157**	B2112ATZ	TENV
	500	1500	**4999**	②	—
	400	1200	**5835**	②	—
	300	900	**7239**	②	—

HP	Base Speed rpm	240V ARMATURE ① Nominal by Field Control	Basic List Price ⑧	TE Frame	Enclosure
3	3500	3500	**$ 2037**	B1811ATZ	TENV
	2500	2875	**2093**	DB1810ATZ	TENV
	1750	2050	**2147**	B1811ATZ	TEFC
	1150	1380	**3495**	B1812ATZ	TEFC
	850	1020	**4175**	B2112ATZ	TEFC
	650	1600	**4928**	B2511ATZ	TENV
	500	1500	**5945**	②	—
	400	1200	**7491**	②	—
	300	900	**8859**	②	—
5	3500	3500	**2682**	B2111ATZ	TENV
	2500	2875	**2757**	B1811ATZ	TEFC
	1750	2050	**3554**	B1812ATZ ◆	TEFC
	1150	1380	**4382**	B2112ATZ ▲	TEFC
	850	1020	**5252**	B2511ATZ	TEFC
	650	1600	**6776**	B2810ATZ	TENV
	500	1500	**8060**	②	—
	400	1200	**9552**	②	—
	300	900	**11376**	②	—

500V Armature • 240V or 300V Field • Power Code C ①

HP	Base Speed rpm	500V ARMATURE ① Nominal by Field Control ①	Basic List Price	TE Frame	Enclosure
1	1750	1950	**$2294**	B1811ATZ	TENV
	1150	1265	**2321**	B1811ATZ	TENV
	850	935	**3443**	B1811ATZ	TENV
	650	1300	**4995**	B2111ATZ	TENV
1½	2500	2500	**2240**	B1811ATZ	TENV
	1750	1925	**2294**	B1811ATZ	TENV
	1150	1265	**2321**	B1811ATZ	TENV
	850	935	**3443**	B1812ATZ	TENV
	650	1300	**5110**	B2111ATZ	TENV
2	2500	2500	**2240**	B1811ATZ	TENV
	1750	1925	**2294**	B1811ATZ	TENV
	1150	1265	**2321**	B1812ATZ	TENV
	850	935	**3753**	B2111ATZ	TENV
	650	1300	**5330**	B2112ATZ	TENV

HP	Base Speed rpm	500V ARMATURE ① Nominal by Field Control ①	Basic List Price	TE Frame	Enclosure
3	2500	2500	**$2241**	B1811ATZ	TENV
	1750	1925	**2294**	B1812ATZ	TENV
	1150	1265	**3680**	B2111ATZ	TENV
	850	935	**4400**	B2112ATZ	TEFC
	650	1000	**5800**	B2510ATZ	TENV
5	2500	2875	**3380**	B2111ATZ	TENV
	1750	2050	**3801**	B2111ATZ ◆	TENV
	1150	1380	**4598**	B2112ATZ	TEFC
	850	1020	**5624**	B2511ATZ	TEFC
	650	1000	**6830**	B2810ATZ	TENV

DISCOUNT — RM075

FOOTNOTES:

① Motors rated 1—5 hp at 1750, 1150 and 850 rpm base speed will operate on Power Code D without external choke or reactor. Other ratings may require choke on Power Code D. Refer to Reliance Electric. Refer to Mod. 425 for motors used on Power Code E or Reliance S3R.

② Refer to Reliance Electric Sales Office.

③ Stock 180 volt armature motors have straight shunt winding, i.e., no series field, for motors having a field weakened speed not greater than 105% base speed.

⑧ Basic List Price applies to frames listed.

◆ Model number motor normally carried in stock—Tachometer may be added.

▲ Model number assigned.

TOTALLY ENCLOSED

FAN COOLED
7½–75 HP.

240V Armature • 150V or 240V Field • Power Code C ①
500V Armature • 240V or 300V Field • Power Code C ①

HP	Speed, RPM		Basic List Price ⑧	TEFC Frame ⑧	
	Base Speed	Nominal by Field Control ①		240V	500V
7½	3500	3500	$ 3,608	B1812ATZ	—
	2500	2875	4,226	B2111ATZ	B2111ATZ
	1750	1950	4,332	B2111ATZ ◆	B2111ATZ ◆
	1150	1380	5,291	B2511ATZ ▲	B2511ATZ
	850	1020	6,726	B2810ATZ	B2810ATZ
	650	1600	8,135	B327ATZ	②
	500	1500	9,728	B366ATZ	—
10	2500	2875	4,845	B2112ATZ	B2112ATZ
	1750	1950	4,968	B2510ATZ ◆	B2510ATZ ◆
	1150	1380	6,479	B2810ATZ	B2810ATZ
	850	1020	7,740	B327ATZ	②
	650	1600	9,521	AB328ATZ	②
	500	1500	11,273 ④	②	④
15	2500	2875	5,868	B2510ATZ	B2510ATZ
	1750	1950	6,456	B2511ATZ ◆	B2511ATZ ◆
	1150	1380	7,941	B327ATZ	B327ATZ
	850	1020	9,468	AB328ATZ	AB328ATZ
	650	1600	12,248	B367ATZ	②
	500	1500	14,670 ④	②	④
20	2500	2875	7,250	B2810ATZ	B2810ATZ
	1750	1950	7,439	B2810ATZ ◆	B2810ATZ ◆
	1150	1380	9,225	B328ATZ	B328ATZ
	850	1020	11,772	B367ATZ	B367ATZ
	650	1600	14,580	②	②
	500	1500	17,334	B408ATZ	②
	400	1200	20,534	B409ATZ	②
25	2500	2875	8,190	B2810ATZ	B2810ATZ
	1750	1950	8,738	B327ATZ ◆	AB328ATZ ◆
	1150	1380	11,075	AB328ATZ	AB328ATZ
	850	1020	13,440	B368ATZ	B368ATZ
	650	1600	16,707	②	②
	500	1500	19,872	B409ATZ	②
	400	1200	23,448	B507ATZ	②
30	2500	2875	$ 9,041	B328ATZ	B328ATZ
	1750	1950	9,689	B328ATZ ◆	AB328ATZ ◆
	1150	1380	12,221	B367ATZ ▲	B367ATZ
	850	1020	14,939	B369ATZ	B369ATZ
	650	1600	18,390	B408ATZ	B409ATZ
	500	1500	22,022 ④	B409ATZ ⑩	④
	400	1200	25,757 ④	B507ATZ	④
40	2500	2875	11,100	AB328ATZ	AB328ATZ
	1750	1950	12,266	B366ATZ	B367ATZ ◆
	1150	1380	14,561	B369ATZ	B369ATZ
	850	1020	17,793	B3610ATZ	B408ATZ
	650	1600	20,790 ④	B409ATZ	④
	500	1500	24,406 ④	B409ATZ ⑩	④
	400	1200	30,483	B508ATZ	②
50	2500	2875	13,211	B367ATZ	B366ATZ
	1750	1950	14,796	B368ATZ	B368ATZ ◆
	1150	1380	16,799 ⑨	B408ATZ ⑨	B3610ATZ ⑨
	850	1020	19,475 ⑨	B409ATZ	B409ATZ ▲
	650	1600	23,288	B409ATZ ⑩	B409ATZ ⑩
	500	1500	30,266	B508ATZ	②
60	2500	2500	16,914 ⑦	⑦	B3610ATZ
	1750	1950	16,109	B3610ATZ	B3610ATZ
	1150	1380	18,608 ⑨	B409ATZ	B409ATZ
	850	1020	21,695 ⑨	B409ATZ ⑩	B409ATZ ⑩
	650	1600	26,081	B507ATZ	B507ATZ
75	2500	2500	18,846 ⑦	⑦	B3610ATZ
	1750	1950	17,949 ⑨	B409ATZ	B408ATZ
	1150	1380	20,790 ⑨	B409ATZ ⑩	B409ATZ
	850	1020	24,949 ⑦	⑦	B507ATZ
	650	1600	29,606	B508ATZ	B508ATZ

FAN COOLED • DUAL COOLED
100–250 HP.

HP	Speed, RPM		⑧ 500V Basic List Price	⑧ 500V TE Frame	Enclosure
	Base Speed	Nominal by Field Control			
100	1750	2000	$20,880	B409ATZ	TEFC
	1150	1380	25,628	B506ATZ	TEFC
	850	1020	29,118	B508ATZ	TEFC
	650	1600	32,235	EB506ATZ	TEDC ⑤
	500	1500	45,521	EB507ATZ	TEDC ⑤
	400	1200	48,576	EB508ATZ	TEDC ⑤
	300	900	58,374	FB587ATZ	TEDC ⑪
125	1750	2000	23,466	B409ATZ	TEAO-P/B ⑩
	1150	1380	29,118	B507ATZ	TEFC
	850	1020	33,993	EB506ATZ	TEDC ⑤
	650	1600	40,581	EB506ATZ	TEDC ⑤
	500	1500	47,793	EB508ATZ	TEDC ⑤
	400	1200	55,683	EB587ATZ	TEDC ⑤
	300	900	64,551	FB588ATZ	TEDC ⑪
150	1750	2000	27,044	B507ATZ	TEFC
	1150	1380	33,371	B508ATZ	TEFC
	850	1020	38,586	EB506ATZ	TEDC ⑤
	650	1600	45,696	FB587ATZ	TEDC ⑪
	500	1500	53,981	FB587ATZ	TEDC ⑪
	400	1200	59,949	FB587ATZ	TEDC ⑪
	300	900	69,315	FB687ATZ	TEDC ⑪
200	1750	2000	$34,286	B508ATZ	TEFC
	1150	1380	41,531	EB506ATZ	TEDC ⑤
	850	1020	45,801	EB507ATZ	TEDC ⑤
	650	1600	53,814	FB587ATZ	TEDC ⑪
	500	1500	62,585	FB588ATZ	TEDC ⑪
	400	1200	69,408	FB687ATZ	TEDC ⑪
	300	900	82,115	FB687ATZ	TEDC ⑪
250	1750	1900	42,282	FB506ATZ	TEDC ⑪
	1150	1380	49,815	FB507ATZ	TEDC ⑪
	850	1020	53,910	FB508ATZ	TEDC ⑪
	650	1600	59,688	FB588ATZ	TEDC ⑪
	500	1400	72,093	FB589ATZ	TEDC ⑪
	400	1200	80,789	FB687ATZ	TEDC ⑪
	300	900	90,914	FB688ATZ	TEDC ⑪

DISCOUNT — RM075

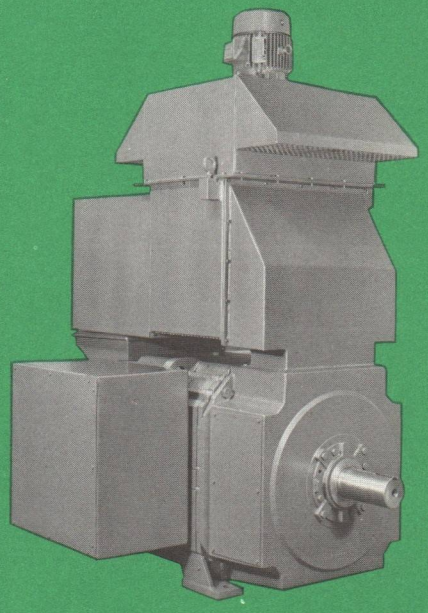
RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.



TEDC with Air-to-Air Heat Exchanger FB688ATZ rated 500hp at 650 rpm.

FOOTNOTES:

① Motors rated 1—40 hp at 1750, 1150 and 850 rpm base speed will operate on Power Code D without external choke or reactor except as noted. Other ratings may require choke on Power Code D. Refer to Reliance Sales Office. Refer to Mod. 425 for motors used on Power Code E or Reliance S3R.

② Refer to Reliance Electric for frame.

④ Price is for 240V rating only; refer to Reliance Electric for 500V frame and price.

⑤ Heat exchanger is air-to-air type with two 3-phase, 60 Hz, 230/460 volt blower motors. Heat Exchanger is size E.

⑦ Price is for 500V rating only; refer to Reliance Electric for 240V frame and prices.

⑧ Basic List Price applies to frames listed.

⑨ Price and frame size for motor operated on Power Codes A or C only.

⑩ Enclosure is totally enclosed air-over piggy-back with 3-phase, 60 Hz, 230/460 volt blower motor.

⑪ Heat exchanger is air-to-air type with two 3-phase, 60 Hz 230/460 volt blower motors. Heat exchanger is size F.

▲ Model number assigned.

◆ Model number motor normally carried in stock—Tachometer may be added.

TOTALLY–ENCLOSED DUAL–COOLED

300—3000 HP

500V Armature • 300-1000 HP (as indicated) • Power Code C
600V Armature • 1100-1500 HP (as indicated) • Power Code 6/6-550/60/0
700V Armature • 1500-3000 HP (as indicated) • Power Code 6/6-636/60/0

HP	Base Speed	Nominal Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	Nominal Field Weakened Speed (rpm) ⑦ Reversing Duty	Armature Volts	1.0 Service Factor Frame	HEAT EXCHANGER Type	HEAT EXCHANGER A/W Water Flow GPM	HEAT EXCHANGER A/W Pressure Drop Ft. of Water	WINDING Stabilized Shunt (Stab. Shunt) Straight Shunt Compensated (Str. Shunt C.)	Basic List Price for Nominal Field Weakened Speed ③	Discount	EXTENDED FIELD RANGE Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	EXTENDED FIELD RANGE Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Reversing Duty	⑤ ⑦ Winder Duty Maximum Field Weakened Speed (rpm)	Percentage Addition to Basic Motor Price for Maximum Field Weakened Speed ⑤
300	1750	1900	1900	500	FB506ATZ	A/A ⑧	—	—	Stab. Shunt	$ 50,738	RM075	2400	2400	—	20
	1150	1600	1600	500	FB587ATZ	A/A ⑧	—	—	Stab. Shunt	56,030	RM075	2300	2300	—	10
	850	1500	1500	500	FB587ATZ	A/A ⑧	—	—	Stab. Shunt	61,511	RM075	2200	2200	—	20
	650	1500	1500	500	FB589ATZ	A/A ⑧	—	—	Stab. Shunt	65,550	RM075	1850	1850	2100	10
	500	1300	1300	500	FB686ATZ	A/A ⑧	—	—	Stab. Shunt	78,920	RM073	1800	1800	2000	10
	400	1200	1200	500	FB688ATZ	A/A ⑧	—	—	Stab. Shunt	87,278	RM073	1500	1500	2100	10
	300	1090	980	500	B843AT	A/W ⑩	15	3	Stab. Shunt	101,889	RM073	1320	1200	1500	10
400	1750	1900	1900	500	FB507ATZ	A/A ⑧	—	—	Stab. Shunt	67,626	RM075	2400	2400	—	20
	1150	1500	1500	500	FB587ATZ	A/A ⑧	—	—	Stab. Shunt	72,719	RM075	2200	2200	—	10
	850	1500	1500	500	FB689ATZ	A/A ⑧	—	—	Stab. Shunt	76,343	RM075	1750	1750	—	10
	650	1400	1400	500	FB686ATZ	A/A ⑧	—	—	Stab. Shunt	81,959	RM073	1850	1850	2000	15
	500	1290	1290	500	FB688ATZ	A/A ⑧	—	—	Stab. Shunt	88,650	RM073	1400	1400	2100	10
	400	1200	1080	500	B843AT	A/W ⑩	15	3	Stab. Shunt	103,982	RM073	1320	1200	1600	10
	300	1020	920	500	B845AT	A/W ⑩	19	5	Stab. Shunt	120,245	RM073	1320	1200	1500	10
500	1750	1900	1900	500	FB508ATZ	A/A ⑧	—	—	Stab. Shunt	88,514	RM075	2000	2000	—	10
	1150	1500	1500	500	FB589ATZ	A/A ⑧	—	—	Stab. Shunt	89,726	RM075	2000	2000	—	10
	850	1400	1400	500	FB687ATZ	A/A ⑧	—	—	Stab. Shunt	95,430	RM075	1600	1600	—	10
	650	1400	1400	500	FB688ATZ	A/A ⑧	—	—	Stab. Shunt	98,805	RM073	1500	1500	1900	10
	500	1220	1100	500	B843AT	A/W ⑩	15	3	Stab. Shunt	104,178	RM073	1375	1250	1750	10
	400	1110	1000	500	B844AT	A/W ⑩	19	5	Stab. Shunt	120,326	RM073	1200	1100	1600	10
	300	960	860	500	B846AT	A/W ⑩	22	7	Stab. Shunt	142,785	RM073	1230	1120	1500	10
600	1750	1750	1900	500	B587ATZ	A/W ⑨	32	14	Stab. Shunt	123,863	RM075	—	—	—	—
	1150	1500	1500	500	B589ATZ	A/W ⑨	32	14	Stab. Shunt	126,288	RM075	—	—	—	—
	850	1300	1300	500	B687ATZ	A/W ⑨	32	14	Stab. Shunt	128,760	RM073	1450	1450	—	15
	650	1330	1200	500	B842AT	A/W ⑩	19	5	Stab. Shunt	139,329	RM073	1540	1400	1800	15
	500	1160	1040	500	B843AT	A/W ⑩	22	7	Stab. Shunt	155,605	RM073	1375	1250	1750	15
	400	1060	950	500	B846AT	A/W ⑩	22	7	Stab. Shunt	166,646	RM073	1200	1080	1600	10
	300	910	820	500	B847AT	A/W ⑩	34	14	Stab. Shunt	181,766	RM073	1000	910	1350	10
700	1150	1300	1300	500	B686ATZ	A/W ⑨	32	14	Stab. Shunt	140,103	RM075	1600	1600	—	10
	850	1370	1370	500	B688ATZ	A/W ⑨	32	14	Stab. Shunt	141,404	RM075	—	—	—	—
	650	1270	1140	500	B842ATZ	A/W ⑩	26	9	Stab. Shunt	157,037	RM073	1430	1300	1800	15
	500	1110	1000	500	B844AT	A/W ⑩	30	12	Stab. Shunt	171,112	RM073	1265	1150	1500	10
	400	1010	910	500	B846AT	A/W ⑩	34	14	Stab. Shunt	182,148	RM073	1020	940	1500	10
	300	870	780	500	B964AT	A/W ⑩	44	24	Str. Shunt C.	203,898	RM073	1200	1080	1200	10
800	1150	1250	1250	500	B687ATZ	A/W ⑨	41	20	Stab. Shunt	154,530	RM075	1350	1350	—	5
	850	1320	1190	500	B842AT	A/W ⑩	22	7	Stab. Shunt	156,018	RM075	1595	1435	—	15
	650	1220	1100	500	B843AT	A/W ⑩	26	9	Stab. Shunt	172,091	RM073	1300	1170	1800	10
	500	1070	965	500	B845AT	A/W ⑩	39	19	Str. Shunt C.	185,617	RM073	1100	990	1500	—
	400	970	875	500	B847AT	A/W ⑩	44	24	Str. Shunt C.	198,535	RM073	1000	900	1500	—
	300	830	745	500	B965AT	A/W ⑩	49	28	Str. Shunt C.	215,050	RM073	1050	945	1200	10
900	1150	1250	1125	500	B842AT	A/W ⑩	30	12	Str. Shunt C.	172,578	RM073	1400	1260	—	5
	850	1270	1145	500	B842AT	A/W ⑩	30	12	Stab. Shunt	173,580	RM073	1400	1260	—	10
	650	1170	1055	500	B844AT	A/W ⑩	34	14	Stab. Shunt	186,681	RM073	1300	1170	1750	10
	500	1030	930	500	B846AT	A/W ⑩	34	14	Stab. Shunt	199,151	RM073	1100	990	1350	5
	400	930	839	500	B964AT	A/W ⑩	44	24	Str. Shunt C.	211,950	RM073	1200	1080	1400	10
	300	805	724	500	B966AT	A/W ⑩	49	28	Str. Shunt C.	232,106	RM073	900	810	1200	10
1000	1150	1250	1125	500	B842AT	A/W ⑩	34	14	Str. Shunt C.	187,380	RM073	1350	1215	—	5
	850	1220	1100	500	B843AT	A/W ⑩	39	19	Str. Shunt C.	188,511	RM073	—	—	—	—
	650	1130	1020	500	B845AT	A/W ⑩	44	24	Str. Shunt C.	200,548	RM073	—	—	1450	5
	500	990	900	500	B847AT	A/W ⑩	49	28	Str. Shunt C.	214,346	RM073	—	—	1350	5
	400	900	810	500	B965AT	A/W ⑩	44	24	Str. Shunt C.	226,991	RM073	1160	—	1200	10
	300	780	700	500	—	A/W ⑩	—	—	Str. Shunt C.	⑪	RM073	—	—	—	—
1250	1150	1250	1125	600	B843AT	A/W ⑩	39	19	Str. Shunt C.	223,965	RM073	1300	1170	—	5
	850	1120	1010	600	B845AT	A/W ⑩	44	24	Str. Shunt C.	225,140	RM073	—	—	—	—
	650	1030	927	600	B847AT	A/W ⑩	49	28	Str. Shunt C.	227,965	RM073	—	—	1400	10
	500	920	828	600	B966AT	A/W ⑩	44	24	Str. Shunt C.	239,955	RM073	1035	930	1250	10
	400	830	747	600	B966AT	A/W ⑩	55	34	Str. Shunt C.	254,100	RM073	960	800	1200	10
	300	720	648	600	B1209AT	A/W ⑩	—	—	Str. Shunt C.	⑪	RM073	1010	—	1010	—

DISCOUNT

TOTALLY–ENCLOSED DUAL–COOLED

1500–3000 HP

RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

HP	Base Speed	Nominal Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	Nominal Field Weakened Speed (rpm) ⑦ Reversing Duty	Armature Volts	1.0 Service Factor Frame	HEAT EXCHANGER Type	HEAT EXCHANGER A/W Water Flow GPM	HEAT EXCHANGER A/W Pressure Drop Ft. of Water	WINDING Stabilized Shunt (Stab. Shunt) Straight Shunt Compensated (Str. Shunt C.)	Basic List Price for Nominal Field Weakened Speed ③	Discount	EXTENDED FIELD RANGE Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Non-Reversing Duty	EXTENDED FIELD RANGE Continuous Duty Maximum Field Weakened Speed (rpm) ⑦ Reversing Duty	⑥ ⑦ Winder Duty Maximum Field Weakened Speed (rpm)	Percentage Addition to Basic Motor Price for Maximum Field Weakened Speed ⑤
1500	1150	1250	1125	600	B962AT	A/W ⑩	49	28	Str. Shunt C.	**$256,990**	**RM073**	1350	1215	—	5
	850	1030	925	600	B962AT	A/W ⑩	55	34	Str. Shunt C.	**258,240**	**RM073**	1200	1080	—	10
	650	960	865	600	B964AT	A/W ⑩	61	40	Str. Shunt C.	**261,635**	**RM073**	1170	1050	1300	10
	500	850	765	600	B966AT	A/W ⑩	61	40	Str. Shunt C.	**275,500**	**RM073**	1000	900	1250	10
	400	770	693	700	B1208AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1100	—	—	—
	300	670	603	700	B1408AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1045	—	—	—
1750	1150	1250	1125	700	B1202AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1500	1350	—	—
	850	960	865	700	B1202AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1200	1080	—	—
	650	900	810	700	B1204AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1000	950	1300	—
	500	800	720	700	B1208AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	450	760	684	700	B1405AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	400	720	648	700	B1406AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	350	670	603	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	300	630	567	700	B1409AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	250	575	518	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
2000	1150	1250	1125	700	B1202AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1360	1225	—	—
	850	960	865	700	B1204AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1235	1110	—	—
	650	840	755	700	B1206AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1115	1000	1300	—
	500	750	675	700	B1406AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	450	720	648	700	B1407AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	400	675	608	700	B1408AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	350	630	567	700		A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	300	590	531	700	B1604AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	250	540	486	700	B1606AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	225	515	464	700	B1607AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	200	485	437	700	B1609AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	175	450	405	700	B1610AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
2250	1150	1250	1125	700	B1401AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1460	1315	—	—
	850	960	865	700	B1403AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1345	1210	—	—
	650	795	715	700	B1405AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1140	1225	1300	—
	500	710	639	700	B1407AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	450	680	612	700	B1407AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	400	640	576	700	B1409AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	350	600	540	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	300	560	504	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	250	515	464	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	200	490	441	700	—	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
2500	1150	1250	1125	700	B1401AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1375	1235	—	—
	850	935	840	700	B1403AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1255	1130	—	—
	650	750	675	700	B1405AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1065	960	1300	—
	500	675	608	700	B1407AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	450	650	585	700	B1408AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	400	600	540	700	B1409AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	350	570	513	700	B1604AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	300	535	482	700	B1606AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	250	490	441	700	B1608AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	225	470	423	700	B1609AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
3000	850	935	840	700	B1601AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1100	990	—	—
	650	715	645	700	B1602AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	1000	990	1200	—
	500	610	549	700	B1603AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	450	585	527	700	B1604AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	400	540	486	700	B1605AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	350	510	459	700	B1606AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	300	490	441	700	B1608AT	A/W ⑪	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—
	250	450	405	700	B1610AT	A/W ⑩	—	—	Str. Shunt C.	⑪	**RM073**	—	—	—	—

DISCOUNT

FOOTNOTES:

③ Basic List Price applies to Nominal Field Weakened Speed either Non-reversing or Reversing Duty

⑤ Percentage Addition to Basic Motor applies to either Continuous Duty Maximum Field Weakened Speed or Winder Duty Maximum Field Weakened.

⑥ Motor must be speed regulated and/or speed limit switch (Mod. 290) must be included to limit speed on winder duty.

⑦ Motor speed under any condition must not exceed maximum safe speed listed in General Features Section.

⑧ Heat exchanger is air-to-air size F with two 3-phase, 60 Hz, 230/460 volt blower motors.

⑨ Heat exchanger is air-to-water type with one 3-phase, 60 Hz, 230/460 volt blower motor. Cooling water at 30 °C maximum water inlet temperature must be supplied by the customer at the flow rate indicated. Water pressure drop through heat exchanger is given in ft. of water (Multiply ft. of water by 0.434 to obtain psi)

⑩ Heat exchanger is air-to-water type with two 3-phase, 60 Hz, 230/460 volt blower motors. Cooling water at 30 °C maximum water inlet temperature must be supplied by the customer at the flow rate and pressure drop indicated. Refer to Reliance Electric for flow rate and pressure drop not listed.

⑪ Refer to Reliance Electric for price.

FEATURES:

1.0 SERVICE FACTOR
CONTINUOUS DUTY
40° C AMBIENT
CLASS F INSULATION
240 V OR 300 V FIELD

REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.

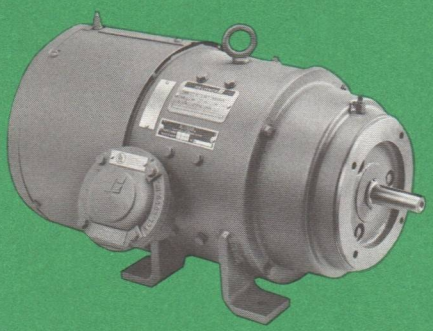
RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS B OR F RISE
STABILIZED SHUNT WOUND
THERMOSTAT



Explosion-proof TEFC X254AC rated 5hp at 1750 rpm.

FOOTNOTES:

① Motors rated 1750 and 1150 rpm base speed at ¾ through 40 hp will operate on power code D without external choke or reactor. Other ratings may require choke on power code D.

② Refer to Reliance Electric for frame size.

⑦ Motors rated 1150 rpm and 1750 rpm are suitable for use on Power Supply K without the use of external reactors or chokes. Power supplies without the free wheeling diode may require an external choke.

⑧ For Class I, Group D only; Class F rise.

⑩ Basic List Price applies to frames listed.

◆ Model number motor normally carried in stock. Explosion-proof Tachometer may be added.

DISCOUNT — RM074

CAUTION:

The application of motors and other electrical equipment in hazardous locations is restricted by the National Electrical Code, Article 500. Customers must observe these regulations and consult with local code inspection and enforcement agencies to insure compliance. Motors listed by Underwriters Laboratories, Inc. for use in specific locations are listed for use in the specified location only.

Explosion-proof motors have one or more thermostats designed to trip before the frame reaches the maximum allowable temperature for the specific class and group. The normally closed contacts of the thermostat MUST be connected in the motor control circuit so that power to the motor armature and field is removed immediately when the thermostat trips. An explosion-proof tachometer mounted on the motor will also have an internal thermostat which must be connected to stop the drive immediately upon tripping.

TOTALLY ENCLOSED EXPLOSION-PROOF

¾—5 HP.

180V Armature • 100V or 200V Field • Power Code K ⑦

HP	180V ARMATURE ⑦					
	Base Speed rpm	Nominal by Field Control	TEFC		TENV	
			Price	Frame	Price	Frame
¾	1150	1380	**$2786**	X187A	**$3657**	X215A
1	1750	2050	**2781** ◆	X187A	**3657**	X215A
	1150	1380	**2930**	X215A	**3684**	X216A
1½	2500	2750	**2907**	X187A	**3603**	X215A
	1750	2050	**2948** ◆	X215A	**3837**	X218A
	1150	1380	**3230**	X216A	**3903**	X254A
2	2500	2750	**3173**	X215A	**3837**	X216A
	1750	2050	**3348** ◆	X216A	**4425**	X254A
	1150	1380	**3780**	X218A	**4725**	X284A
3	2500	2750	**3699**	X216A	**5256**	X284A
	1750	2050	**3753** ◆	X254A	**5570**	X286A
	1150	1380	**5642**	X284A	**6048**	X286A
5	2500	2750	**4364**	X256A	—	—
	1750	2050	**5700** ◆	X284A	—	—
	1150	1380	**6816**	X286A ⑧	—	—
	850	—	—	—	—	—

240V Armature • 150V or 240V Field • Power Code C ①

HP	240V ARMATURE — TEFC				240V ARMATURE — TENV		
	Base Speed rpm	Nominal by Field Control ①	Basic List Price ⑩	Frame	Nominal by Field Control ①	Basic List Price ⑩	Frame
¾	1150	1750	**$2786**	②	—	—	—
1	1750	2050	**2781**	X187A	2100	**$3657**	X187A
	1150	1750	**2930**	X187A	1750	**3684**	X216A
1½	2500	2750	**2907**	X187A	2875	**3603**	X187A
	1750	2050	**2948**	X187A	2190	**3837**	X215A
	1150	1380	**3230**	②	1750	**3903**	X216A
2	2500	2875	**3173**	X187A	2875	**3837**	X215A
	1750	2190	**3348**	X187A	2190	**4425**	X216A
	1150	1750	**3780**	X216A	1750	**4725**	X254A
3	2500	2875	**3699**	X215A	2875	**5256**	X216A
	1750	2190	**3753**	X215A	2190	**5570**	X218A
	1150	1750	**5642**	X218A	1750	**6048**	X284A
5	3500	3850	**4046**	X216A	—	—	—
	2500	2875	**4364**	X216A	—	—	—
	1750	2050	**5700**	X254A	2050	**5948**	X284A
	1150	1750	**6816**	X284A	2000	**8400**	X286A
	850	1700	**7686**	X284A	—	—	—

EXPLOSION-PROOF MOTOR AVAILABILITY

REFER TO APPLICATION DATA SECTION FOR ADDITIONAL DATA

The basic explosion-proof motor is Underwriters Laboratories, Inc. listed for service in hazardous locations indicated by the following table. The basic motor is either TENV or TEFC as noted on the price page. A price addition must be made to obtain TEAO construction. (Refer to Modification Section)

U/L Classification	Temp. Code ①	Frame	TENV	TEFC	TEAO In-Line	TEAO Piggy Back
CL. I GR. D ①	T2D-215 °C	X186A—X288A	Yes	Yes	Yes	Yes
CL. II GR. E & F	T3-200 °C	X186A—X288A	Yes	Yes	Yes	No
CL. II GR. G	T3B-165 °C	X186A—X288A	Yes	Yes	Yes	No
CL. I GR. C & D	T3C-160 °C	XB327ATZ—XAB328ATZ	Yes	Yes	Yes	Yes
CL. II GR. E, F & G	T3B-165 °C	XB327ATZ—XAB328ATZ	Yes	Yes	Yes	No
CL. I GR. C & D	T3C-160 °C	XB366ATZ XB3610ATZ	Yes	Yes	Yes	Yes
CL. I GR. D	T2D-215 °C	XB408ATZ—XB508ATZ	No	Yes	No	No
CL. II GR. E, F & G	T3B-165 °C	XB366ATZ—XB3610ATZ	Yes	Yes	Yes	No
CL. II GR. E, F & G ③	T3B-165 °C	XB408ATZ—XB508ATZ	No	Yes	No	No
CL. I GR. C	T3C-160 °C	XB408ATZ—XB508ATZ	No	Yes	No	No

① Temperature code applies for motors with required thermostats.
③ Listing limited to ratings through 150 hp for Class II group G only.

TOTALLY ENCLOSED
EXPLOSION-PROOF

7½–60 HP. • 240V Armature • 150V or 240V Field • Power Code C ①
7½–200 HP. • 500V Armature • 240V or 300V Field • Power Code C ①

HP	SPEED — RPM		CLASS I, GROUP C ⑥ & D CLASS II, GROUP E & F				CLASS II, GROUP G ⑧			
			240V ARMATURE		500V ARMATURE		240V ARMATURE		500V ARMATURE	
	Base	Nominal By Field Control ①	Basic List Price ⑩	TEFC Frame	Basic List Price ⑩	TEFC Frame	Basic List Price ⑩	TEFC Frame	Basic List Price ⑩	TEFC Frame
7½	2500	2950	$ 6,372	X254A	$ 7,009	X254A	$ 6,372	X254A	$ 7,009	X254A
	1750	1850	$ 6,767	X256A	7,403	X284A	6,767	X256A	7,403	X284A
	1150	2000	7,997	X284A	8,797	X286A	7,997	X284A	8,797	X286A
10	2500	2700	7,280	X284A	8,008	X286A	7,280	X284A	8,008	X284A
	1750	1950	7,403	X284A	7,403 ⑦	X284A ⑦	7,403	X284A	7,403 ⑦	X284A ⑦
	1150	1380	9,498	X288A	③	—	9,498	X288A	③	—
15	2500	2875	9,245	X284A	9,245	X284A	9,245	X284A	9,245	X284A
	1750	1950	9,476	X286A	9,476 ⑦	X286A ⑦	9,476	X286A	9,476 ⑦	X286A ⑦
	1150	1380	11,370	XB327ATZ	11,370	XB327ATZ	11,370	XB328ATZ	11,370	XB327ATZ
	850	1020	13,500	XAB328ATZ	13,500	XAB328ATZ	14,450	XB367ATZ	14,450	XAB328ATZ
20	2500	2875	10,500	X286A	10,500	X286A	10,500	X286A	10,500	X286A
	1750	1950	10,868	XB327ATZ	10,868	XB327ATZ	10,868	XB327ATZ	10,868	XAB328ATZ
	1150	1380	13,185	XB328ATZ	13,185	XB328ATZ	13,185	XB366ATZ	13,185	XAB328ATZ
	850	1020	16,010	XB367ATZ	16,010	XB367ATZ	16,010	XB368ATZ	16,010	XB368ATZ
	650	1600	③	—	③	—	③	—	③	—
	500	1500	26,900	XB408ATZ	N/A	N/A	29,500	XB409ATZ	③	—
	400	1200	29,500	XB409ATZ	N/A	N/A	③	—	③	—
	300	900	42,950	XB508ATZ	N/A	N/A	42,950	XB508ATZ	N/A	N/A
25	2500	2875	11,700	XB328ATZ	11,700	②	11,700	XB328ATZ	11,700	XB328ATZ
	1750	1950	12,167	XB327ATZ	12,167	XAB328ATZ	12,167	XB328ATZ	12,167	XAB328ATZ
	1150	1380	15,504	XAB328ATZ	15,504	XAB328ATZ	15,504	XB367ATZ	15,504	XB367ATZ
	850	1020	18,340	XB368ATZ	18,340	XB368ATZ	18,340	XB369ATZ	18,340	XB369ATZ
	650	1600	③	—	N/A	N/A	27,000	XB408ATZ	③	—
	500	1500	29,500	XB409ATZ	N/A	N/A	38,920	XB506ATZ	N/A	N/A
	400	1200	—		N/A	N/A	40,800	XB507ATZ	N/A	N/A
	300	900	42,950	XB508ATZ	N/A	N/A	N/A	N/A	N/A	N/A
30	2500	2875	13,000	XB328ATZ	13,000	XB328ATZ	13,000	XB366ATZ	13,000	XAB328ATZ
	1750	1950	13,796	XB328ATZ	13,796	XAB328ATZ	13,796	XB367ATZ	13,796	XB367ATZ
	1150	1380	17,109	XB367ATZ	17,109	XB367ATZ	17,109	XB369ATZ	17,109	XB369ATZ
	850	1020	20,385	XB369ATZ	20,385	XB369ATZ	20,385	XB408ATZ	20,385	②
	650	1600	28,600	XB408ATZ	N/A	N/A	28,825	XB409ATZ	③	—
	500	1500	38,920	XB506ATZ	N/A	N/A	40,800	XB507ATZ	N/A	N/A
	400	1200	40,800	XB507ATZ	N/A	N/A	N/A	N/A	N/A	N/A
40	2500	2875	16,000	XAB328ATZ	16,000	XAB328ATZ	16,000	XB367ATZ	16,000	XB366ATZ
	1750	1950	17,915	XB366ATZ ④	17,915	XB366ATZ ④	17,915	XB369ATZ	17,915	XB369ATZ
	1150	1380	20,385	XB369ATZ	20,385	XB369ATZ			20,385	XB408ATZ
	850	1020	28,600	XB408ATZ	N/A	N/A	30,400	XB409ATZ	30,400	XB409ATZ
	650	1600	30,400	XB409ATZ	N/A	N/A	38,920	XB506ATZ	N/A	N/A
	500	1500	40,800	XB507ATZ	N/A	N/A	42,950	XB508ATZ	N/A	N/A
	400	1200	42,950	XB508ATZ	N/A	N/A	N/A	N/A	N/A	N/A
50	2500	2875	18,495	XB367ATZ ⑫	18,495 ⑫	XB366ATZ ⑫	N/A	N/A	18,495	XB3610ATZ
	1750	1950	20,447	XB368ATZ	20,447	XB368ATZ	20,447	XB3610ATZ	20,447	XB3610ATZ
	1150	1380	N/A	—	28,000	XB408ATZ	N/A	N/A	31,500	XB409ATZ
	850	1020	31,500	XB409ATZ	31,500	XB409ATZ	N/A	N/A	38,920	XB506ATZ
	650	1600	38,920	XB508ATZ	N/A	N/A	N/A	N/A	40,800	XB507ATZ
	500	1500	42,950	XB508ATZ	N/A	N/A	N/A	N/A	N/A	N/A
60	2500	2875	N/A	N/A	22,846	XB3610ATZ	N/A	N/A	22,846	XB3610ATZ
	1750	1950	21,758	XB3610ATZ	21,758	XB3610ATZ	N/A	N/A	21,758	XB408ATZ
	1150	1380	N/A	—	29,500	XB409ATZ	N/A	N/A	29,500	XB409ATZ
	850	1020	N/A	N/A	38,960	XB506ATZ	N/A	N/A	40,800	XB507ATZ
	650	1600	N/A	N/A	40,800	XB507ATZ	N/A	N/A	42,950	XB508ATZ
75	2500	2875 ⑤	N/A	N/A	31,275 ⑤⑫	XB3610ATZ ⑫	N/A	N/A	—	—
	1750	1950	N/A	N/A	28,600	XB408ATZ	N/A	N/A	31,500	XB409ATZ
	1150	1380	N/A	N/A	31,500	XB409ATZ	N/A	N/A	39,980	XB507ATZ
	850	1020	N/A	N/A	39,980	XB507ATZ	N/A	N/A	42,950	XB508ATZ
	650	1600	N/A	N/A	42,950	XB508ATZ	N/A	N/A	N/A	N/A
100	1750	2000	N/A	N/A	31,930	XB409ATZ	N/A	N/A	40,800	XB507ATZ
	1150	1380	N/A	N/A	40,800	XB507ATZ	N/A	N/A	43,280	XB508ATZ
	850	1020	N/A	N/A	43,280	XB508ATZ	N/A	N/A	N/A	N/A
125	1750	2000	N/A	N/A	39,890	XB507ATZ	N/A	N/A	42,950	XB507ATZ
	1150	1380	N/A	N/A	42,950	XB508ATZ	N/A	N/A	44,990	XB508ATZ
150	1750	2000	N/A	N/A	41,330	XB508ATZ	N/A	N/A	45,080	XB508ATZ
	1150	1380	N/A	N/A	45,080	XB508ATZ	N/A	N/A	N/A	N/A
200	1750	2000	N/A	N/A	45,995	XB508ATZ	N/A	N/A	N/A	N/A

DISCOUNT — RM074

RELIANCE ELECTRIC

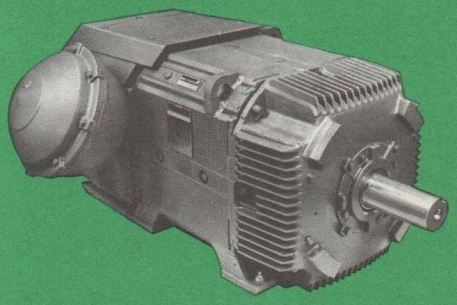
SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS B OR F RISE ⑪
STABILIZED SHUNT WOUND
THERMOSTAT

REFER TO PRECEEDING PAGE FOR AVAILABILITY OF FRAMES TO MEET SPECIFIC UL CLASSIFICATIONS.



Explosion-proof TEFC XB3610ATZ rated 60hp at 1750 rpm.

FOOTNOTES:

① Motors rated 1750 and 1150 rpm base speed at ¾ through 40 hp will operate on power code D without external choke or reactor. Other ratings may require choke on power code D. Refer to Reliance Electric.
② Refer to Reliance Electric for frame size.
③ Contact Reliance Electric for availability.
④ Class II Group E, F and G Frame is XB369ATZ.
⑤ Add **$3128** RM074 for 2500/3500 rpm.
⑥ Group C listing not available on frames X180A thru X280A.
⑦ Power Code C only.
⑧ Will be labeled Class I, Group D and Class II, Group E, F and G.
⑩ Basic List Price applies to frames listed.
⑪ Class II, Group G is Class B Rise.
⑫ Limited to Class I, Group D only.

RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

CONTINUOUS DUTY
40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND
REFER TO GENERAL INFORMATION SECTION FOR ADDITIONAL BASIC MOTOR FEATURES.

TENV B3610ATZ rated 30hp at 1750 rpm.

FOOTNOTES:

① Motors rated 1750, 1150 and 850 rpm base speed will operate on power code D without external choke or reactor. Other ratings may require choke on power code D. Refer to Mod. 425 for motors used on power code E or Reliance S3R.

② Refer to Reliance Electric for frame size.

③ For those ratings with TENV enclosure as standard, refer to page 32.

TOTALLY ENCLOSED NON-VENTILATED

1–30 HP.

240V Armature • 150V or 240V Field • Power Code C ①
500V Armature • 240V or 300V Field • Power Code C ①

HP	SPEED, rpm		TOTALLY ENCLOSED NON-VENTILATED		
	Base Speed	Nominal By Field Control	Basic List Price ③	Frame Size 240V	Frame Size 500V
1	500 400	1500 1200	$ 4,248 4,743	② ②	② ②
1½	500	1500	5,283	②	②
2	850	1020	3,924	B2111ATZ	③
3	1750 1150 850	1950 1380 1020	2,294 3,680 5,738	DB1811ATZ B2111ATZ B2510ATZ	③ ③ B2510ATZ
5	2500 1750 1150 850	2875 1950 1380 1020	3,380 3,801 5,994 7,799	B2111ATZ B2111ATZ B2510ATZ B289ATZ	③ ③ B2510ATZ B289ATZ
7½	2500 1750 1150 850 650	2875 1950 1380 1020 1600	4,581 5,777 7,830 10,575 13,424	B2510ATZ B2511ATZ B2810ATZ B328ATZ ②	B2510ATZ B2511ATZ B2810ATZ B328ATZ ②
10	2500 1750 1150 850 650	2875 1950 1380 1020 1600	6,638 7,551 10,575 13,589 14,877	B289ATZ B2810ATZ AB328ATZ B368ATZ ②	B289ATZ B2810ATZ AB328ATZ B369ATZ ②
15	2500 1750 1150 850 650	2875 1950 1380 1020 1600	9,000 11,042 13,440 14,939 18,422	B327ATZ B328ATZ B368ATZ B3610ATZ ②	② B328ATZ B368ATZ ② ②
20	2500 1750 1150 850 650	2875 1950 1380 1020 1600	10,575 12,375 14,939 18,608 21,878	② B367ATZ B3610ATZ ② ②	AB328ATZ B368ATZ B3610ATZ ② ②
25	2500 1750 1150 850 650	2875 1950 1380 1020 1600	12,038 13,440 17,100 20,790 24,713	② B368ATZ ② ② ②	B367ATZ B369ATZ ② ② ②
30	1750 1150 850	1950 1380 1020	14,939 18,608 23,288	B3610ATZ ② ②	B3610ATZ ② ②

DISCOUNT — RM075

TOTALLY ENCLOSED
NON-VENTILATED

1—150 HP.

240V Armature • 150 or 240V Field ③ • Power Code C ①
500V Armature • 240V or 300V Field ③ • Power Code C ①

30 MINUTE DUTY

HP	Base Speed, rpm: Stab. Shunt or Comp. ⑥	Base Speed, rpm: Series ⑥	Basic List Price	240V or 500V Frame ⑤
1	850	800	$1337	④
1½	1150 850	1100 800	1337 2282	④ ④
2	1750 1150 850	1700 1100 800	1250 1560 2424	④ ④ B1811ATZ
3	1750 1150 850	1700 1100 800	1539 2370 2889	④ B1811ATZ B1812ATZ
5	1750 1150 850	1700 1100 800	2457 3032 3632	B1811ATZ B1812ATZ B2111ATZ
7½	1750 1150 850	1700 1100 800	2997 3659 4341	B1812ATZ B2111ATZ B2510ATZ
10	1750 1150 850	1700 1100 800	3437 4179 4995	B2111ATZ B2112ATZ B2511ATZ
15	1750 1150 850	1700 1100 800	4166 5124 6110	B2112ATZ B2511ATZ B2810ATZ

HP	Base Speed, rpm: Stab. Shunt or Comp. ⑥	Base Speed, rpm: Series ⑥	Basic List Price	Frame ⑤: 240V	Frame ⑤: 500V
20	1750 1150 850	1700 1100 800	$ 4,800 5,954 7,304	B2510ATZ B289ATZ B2811ATZ	B2510ATZ B2810ATZ B2811ATZ
25	1750 1150 850	1700 1100 800	5,421 6,852 8,337	B2511ATZ B2810ATZ B327ATZ	B2511ATZ B2810ATZ B327ATZ
30	1750 1150 850	1700 1100 800	5,981 7,581 9,269	B2810ATZ B2811ATZ B328ATZ	B2810ATZ B2811ATZ AB328ATZ
40	1750 1150 850	1700 1100 800	7,061 9,032 11,037	B2811ATZ B327ATZ B367ATZ	B2811ATZ B327ATZ B367ATZ
50	1750 1150 850 650	1700 1100 800 600	8,085 9,522 12,812 15,525	④ AB328ATZ B368ATZ —	— AB328ATZ B369ATZ —
60	1750 1150 850 650	1700 1100 800 600	9,275 11,928 14,561 17,483	B327ATZ B367ATZ B3610ATZ ④	B327ATZ B368ATZ B3610ATZ —
75	1750 1150 850 650	1700 1100 800 600	10,922 14,048 16,731 20,420	BB328ATZ BB368ATZ ④ ④	B328ATZ B368ATZ — —
100	1750 1150	1700 1100	13,737 17,199	BB367ATZ BB3610ATZ	B367ATZ B3610ATZ
125	1750	1700	16,295	BB368ATZ	B369ATZ
150	1750	1700	18,779	④	B3610ATZ

DISCOUNT — RM075

RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND ⑥
30 MINUTE DUTY

FOOTNOTES:

① Motors rated 1750, 1150 and 850 rpm base speed will operate on power code D without external choke or reactor. Other ratings or extended field range may require choke on power code D. Refer to Mod. 425 for motors used on power supply E or Reliance S3R.

③ Fields rated 30 minute duty.

④ Refer to Reliance Sales Office for frame.

⑤ Series wound motors may have increased frame size. Refer to Reliance.

⑥ Price addition must be made for compound or series winding.

RELIANCE ELECTRIC

SUPER RPM D-C MOTORS

INTEGRAL HP.

FEATURES:

40° C AMBIENT
1.0 SERVICE FACTOR
CLASS F INSULATION
STABILIZED SHUNT WOUND ⑥
60 MINUTE DUTY

TENV B328ATZ rated 20hp at 1150 rpm 60 minute duty.

TOTALLY ENCLOSED
NON-VENTILATED

1—125 HP.

240V Armature • 150 or 240V Field ⑦ • Power Code C ①
500V Armature • 240V or 300V Field ⑦ • Power Code C ①

60 MINUTE DUTY

HP	SPEED, rpm		Basic List Price	240V or 500V Frame
	Base Speed	Nominal By Field Control		
3	2500	2875	$ 1,883	④
	1750	1950	1,935	④
	1150	1380	3,143	④
	850	1020	3758	④
	650	1600	4,433	④
5	2500	2875	2,483	④
	1750	1950	3,195	④
	1150	1380	3,945	④
	850	1020	4,725	④
	650	1600	6,098	④
7½	2500	2875	3,870	④
	1750	1950	3,900	B2510ATZ
	1150	1380	4,763	④
	850	1020	6,053	④
	650	1600	7,320	④
	500	1500	8,753	④
10	2500	2875	4,358	B2510ATZ
	1750	1950	4,470	④
	1150	1380	5,828	④
	850	1020	6,968	④
	650	1600	8,565	④
	500	1500	10,148	④
15	2500	2875	5,280	④
	1750	1950	5,813	④
	1150	1380	7,148	B327ATZ
	850	1020	8,520	④
	650	1600	11,025	④
	500	1500	13,200	④
20	2500	2875	6,525	④
	1750	1950	6,698	B2810ATZ
	1150	1380	8,303	B328ATZ
	850	1020	10,598	④
	650	1600	13,122	④
	500	1500	15,600	④
25	2500	2875	7,373	④
	1750	1950	7,868	④
	1150	1380	9,968	④
	850	1020	12,098	④
	650	1600	15,038	④
	500	1500	17,888	④

HP	SPEED, rpm		Basic List Price	240V or 500V Frame
	Base Speed	Nominal By Field Control		
30	2500	2875	$ 8,138	④
	1750	1950	8,723	④
	1150	1380	10,995	④
	850	1020	13,448	④
	650	1600	16,553	④
	500	1500	19,823	④
40	1750	1950	11,040	④
	1150	1380	13,103	④
	850	1020	16,013	④
	650	1600	18,713	④
	500	1500	23,768	④
50	1750	1950	13,320	④
	1150	1380	15,120	④
	850	1020	17,528	④
	650	1600	20,963	④
	500	1500	27,240	④
60	1750	1950	14,498	④
	1150	1380	16,748	④
	850	1020	19,523	④
	650	1600	23,475 ②	④
	500	1500	29,843 ②	④
75	1750	1950	16,155	④
	1150	1380	18,713	④
	850	1020	22,433 ②	④
	650	1600	26,645 ②	④
	500	1500	34,440 ②	④
100	1750	2000	18,795 ②	④
	1150	1380	23,063 ②	④
	850	1020	26,205 ②	④
	650	1600	31,712 ②	④
	500	1500	40,968 ②	④
125	1750	2000	21,120 ②	④
	1150	1380	26,205 ②	B507ATZ
	850	1020	30,593 ②	④
	650	1600	36,525 ②	④

DISCOUNT — RM075

FOOTNOTES:

① Motors rated 1750, 1150 and 850 rpm base speed will operate on power code D without external choke or reactor. Other ratings or extended field range may require choke on power code D. Refer to Mod. 425 for motors used on power supply E or Reliance S3R.

② Price is for 500V armature only. Refer to Reliance for availability of motors with 240 volt armatures.

④ Refer to Reliance Sales Office for frame.

⑤ Series wound motors may have increased frame size. Refer to Reliance.

⑥ Price addition must be made for compound or series winding.

⑦ Fields rated 60 minute duty.

MODIFICATIONS

INDEX

Modifications are listed in alphabetical order by major topic heading. This index provides a cross-reference to enable you to find specific modifications.

A complete description of the features of standard D-C motors is given in General Information Section. Modifications in this section are to be added to the basic motor price when features not included on the standard motor are required.

Price additions for modifications in this section are to be added to the motor basic list price either dripproof or totally enclosed as required for the application. If more than one modification is applied to the same machine, the basic list price should be used as the base for each price addition.

MODIFICATION	Mod. No.	Pg. C-
A-C Tachometer	310	52
Adapter Rails	123	42
Air Pressure Switch	132-133	43
Altitude		
3301-8800 ft	101	42
8801-15,000 ft	102	42
Ambient Temperature	105	42
Application Data (Refer to App. Data Section)	—	56
Armature Voltage, Special	420	55
Balance, Dynamic		
Special	110	42
Precision	111	42
Bases or Rails		
Adaptor	123	43
Standard Duty	120	43
Heavy Duty	121	43
Belted Drive	125	42
Blowers, Motor Mounted	130	43
Brackets, C-Face or D-Flange	140	43
Brakes, Disc Type	150-152	44
Brush Wear Sensors	155	44
Bus Bar Terminations	160	44
C-Face Bracket	140	43
Compound Field	222	47
Conduit Box	170-175	44
Connection Diagram	380	53
Continuous Duty Field	221	47
Coupling, Mounting of Customer's	177-178D	45
Covers:		
Vertical Mount	180	45
Splash Proof	181	45
Transparent	182	45
Separately Ventilated	183	45
D-C Tachometers	—	52
D-Flange Bracket	140	43
Dimension Sheet	380	53
Double Shaft Extension	270	48
Drain Plugs, Automatic Breather	195	47
Drain Plugs, Standard	196	47
Dual Voltage Shunt Field	220	47
Dust-proof Features	190	45
Dynamic Balance	110-111	42
Enclosures:		
Separately Ventilated	183	45
Totally-Enclosed Air-Over	185-188	45
Dust-Proof Taconite	190	45
XT Features	191	46
Outdoor Duty-Weather Proof	192	46
Washdown Duty	193	46
Stainless Steel Tubes for TEDC	194	47
ESP Brushes	155	44
Export Boxing	200	47
Field Weakened Speed Range		
Continuous Duty—240V Armature	305	49
Continuous Duty—500V Armature	305	50
Winder Duty—240V Armature	305	51
Winder Duty—500V Armature	305	51
Field Winding—Special	220-224	47
Field Voltage—Special	225	47
Filter on Motor Mounted Blower	131	43
Finish, Special Color	240	47
Force Ventilated Enclosure	130-131	43
Frame, Footless	210	47
Gear Motor Provision	243	47
Grease Fittings	245	47
Grease, Special Low Temperature	246	47
Instruction Manual	380	53
Leads, Extra Length	250	47
Noise Tests		
Under Load	395	54
No Load	396	54
Outdoor Duty	192	46
Overload, Special	260	47
Overspeed Switch	290	48
Overtemperature Protection	410-420	54-55
Paint, Special	240	47
Performance Curves	382	53
Power Supply, Special	425	55
Provision for Mounting Tachometer	—	53
Rails		
Adjustable	120-122	42
Adaptor	123	42
Resistance Temperature Detector	418	55
Roller Bearing—Drive End	125	42
Separately Ventilated Enclosures	183	45
Series Field	224	47
Service Factor	265	48
Shaft Modifications		
Face Type Seal	276	48
Lip Type Seal	275	48
Non-Standard Diameter	272-273	48
Non-Standard Length	274	48
Shaft Guard	271	48
Standard Front End Extension	270	48
Steps	277	48
Tapered	279	48
Threads	278	48
Shunt Field	223	47
Slide Bases	120-121	42
Soleplates	124	42
Space Heater		
Motor Mounted	280	48
Separate Conduit Box for Motor	281	48
Space Heater in Motor-Mounted Brake	282	48
Speed Curve	381	53
Speed Limit Switch	290-291	48
Speed Range by Field Weakening	305	49-51
Splash-Proof Enclosure	181	45
Tachometer Generators		
A-C	—	52
D-C	—	52
Magnetic	—	52
Zero Speed	—	52
Combination Digital/Analog	—	53
Taconite Features	190	45
Technical Data	—	53
Temperature, Higher than Standard	105	42
Temperature, Lower than Standard	246	47
Terminal Housing	170	44
Tests	390-393	53-54
Thermistors	412-417	55
Thermostat	410-411	54-55
Totally Enclosed Air Over Enclosure	185-190	45
Totally-Enclosed Dual-Cooled—Adder For Stainless Steel Tubes	194	47
Transparent Covers	182	45
Tropical Protection	400	54
Vertical, Mount—DPG	180	45
Voltage, Special Armature	420	55
Voltage, Special Field	225	47
Voltage, Special Power Code	425	55
Washdown Duty	194	46
Weather Proof Enclosure	192	46
Windings, Special Field	220-225	47
XT Features	191	46

MODIFICATIONS

Price additions for modifications are to be added to the motor basic list price either dripproof guarded or totally enclosed as required for the application. If more than one modification is applied to the same machine, the basic list price should be used as the base for each price addition.

MOD. NO.	MODIFICATION	
	ALTITUDE Standard guarantees are made on the basis that the motor or generator will operate at an altitude from sea level to 3300 feet per NEMA MG1-14.04.	
101	For machines suitable for operation at altitudes 3301–8800 ft.–Applicable to all enclosures.	Frames B500ATZ And Smaller–**Add 15%.** Frames B580ATZ And Larger–**Add 10%.**
102	For machines suitable for operation at altitudes 8801–15000 ft.–Applicable to all enclosures.	Frames B500ATZ And Smaller–**Add 22%.** Frames B580ATZ And Larger–**Add 15%.**
	AMBIENT TEMPERATURE Standard motors are designed for operation in ambients up to 40 °C.	
105	For motors suitable for operation in ambients up to 60° C.	**Price Motor Having Next Higher HP Rating At Same Base Speed**

BALANCE–DYNAMIC

Standard–Reliance D-C motors meet the dynamic balance limits of the NEMA Standard MG1-12.05 for maximum amplitude (peak-to-peak displacement) in inches at their highest rated speeds. The guaranteed dynamic balance limits are for the motor or generator without mounted accessories such as tachometer generator, blower, brake wheel, sheave, etc. No addition is required with maximum amplitude in inches as given in Table I "Standard Dynamic Balance". For Special or Precision Balance add Mod. 110 or 111

NOTE: The ripple currents associated with rectified power supplies produce high frequency driving forces that may cause vibration similar to that of mechanical unbalance. When low vibration is essential, current filters (chokes) or generated d-c power should be considered.

TABLE I–STANDARD DYNAMIC BALANCE LIMITS

Highest Rated Speed–rpm	Maximum Amplitude, Inches, Peak-to-Peak
3000–4000; incl.	0.001
1500–2999; incl.	0.0015
1000–1499; incl.	0.002
999 and below	0.0025

TABLE II–SPECIAL AND PRECISION BALANCE LIMITS

Frame	Maximum Amplitude, Inches, Peak-to-Peak	
	Special Balance	Precision Balance
DB180ATZ–B250ATZ	0.0005	0.0002
B280ATZ–B320ATZ	0.0005	0.0003
B360ATZ–B580ATZ	0.00075	0.0004
B680ATZ	0.00075	Not Applicable
B840AT	0.0020	Not Applicable
B960AT–B1600AT	0.0020	Not Applicable

		MOTOR BASIC LIST PRICE												
		Up to $1250	$1251 to $1796	$1797 to $2789	$2790 to $4874	$4875 to $6609	$6610 to $11961	$11962 to $21068	$21069 to $30875	$30876 to $49314	$49315 to $78852	$78853 to $126144	$126145 to $201825	$201826 and Up
	MODIFICATION	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price
110	**Special Balance**–Limits Per Table II above	$122	$122	$122	$170	$ 230	$ 230	$ 257	$ 305	$ 458	—	—	—	—
111	**Precision Balance**–Limits Per Table II above	423	534	669	791	1047	1344	1605	2297	2745	—	—	—	—
	BASES OR RAILS For adjusting belt tension. Neither bases or rails are suitable for wall or ceiling mounting.													
120	**Base-Standard Duty**–One adjusting Bolt-Frame DB180ATZ only	158	158	158	—	—	—	—	—	—	—	—	—	—
121	**Base-Heavy Duty**–Two adjusting Bolts-Frame B180ATZ–UB400ATZ	270	270	270	270	315	405	800	1080	1430	—	—	—	—
122	**Rails-Adjustable Slide** for Frames UB500ATZ–UB680ATZ	—	—	—	—	—	—	—	1080	1430	$1922	$3077	$3077	—
123	**Rails-Adapter**–Frames DB180ATZ thru B580ATZ	320	320	320	630	740	900	1125	1563	1875	1875	2150	—	—
	Provides adapter rails to permit using a current design SUPER RPM motor with its smaller "D" Dimension in the same location as an RPM or Super T motor. The modification provides rails only and is normally used for coupled applications. An adapter slide base is not available. Note that difference in shaft diameter and length will probably require a change in customer's coupling.													
124	**SOLEPLATES**	—	—	—	—	—	1190	1430	1430	1670	2350	2820	3520	—
	Provides two steel plates for customer installation between motor and foundation. Refer to Reliance Electric for one piece sole plates.													
125	**BELTED DRIVE**	—	—	—	—	—	—	291	405	567	795	1112	1598	—
	Provides for roller bearings and special shaft on frames UB400ATZ thru UB580ATZ used for belted drive. Refer to the Application Data section for minimum sheave diameter and center-to-center distance. Details of the drive system must accompany the order. Belted drive applications not meeting the standard minimum sheave diameters, etc., require special pricing.													

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

MOTOR BASIC LIST PRICE

	MODIFICATION	Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
	BLOWER, MOTOR-MOUNTED To be used for dripproof self-ventilated motors where constant ventilation independent of motor speed is required or for forced ventilation of separately ventilated motors. Operation of self-ventilated motors at continuous full load torque below 60% base speed requires a blower. Refer to Application Data section for speed vs. torque operation to determine if a blower is required. Includes 3-phase, 50/60 Hz, 230/460 volt blower motor but no starter. Filters are washable type. Totally enclosed construction rather than filters is recommended for atmospheres with very fine dust in the air. Blower motor on DB180ATZ frame may be single phase, 230 volts if specified. **NOTE: Add $500 List** for three phase, special blower motor rated 380, 415 or 575 volts. To insure adequate protection of a blower ventilated motor against loss of cooling air, an overtemperature device per pages 54 and 55 for interlocking with the controller overload protection circuit is recommended and should be added as standard practice. An air pressure switch Mod. 132 or 133, is also recommended. **IMPORTANT: Motors designed for forced-ventillation as standard (see Pricing Section) must have cooling air when fields are excited at rated voltage. Installation having the air supply interrupted when the motor is not operating must have fields disconnected or field voltage reduced to 50% rated by means of field economizing resistors and relay.**													
130	Blower without filter	$516	$516	$ 516	$741	$ 907	$1058	$1159	$1370①	$1723①	$2363①	$2738	$3753	$4172
131	Blower with filter	736	736	736	1137	1288	1433	1579	1853①	2389①	3414①	4243	5666	6579

①Motor mounted blower is standard on frames B500ATZ thru B680ATZ as priced in Pricing section and certain B400ATZ ratings. When filter is required on rating having a blower as standard, add price from Table III.

Ratings having a motor mounted blower as standard may be separately ventilated at the same basic list price. (Blower price can not be subtracted from basic price.)

TABLE III–FILTER ADDITIONS

Frame	Add for Filter, List Price
B400ATZ	$ 603
B500ATZ	949
B580ATZ	1051
B680ATZ	1051

AIR PRESSURE SWITCH–Mounted on motor bracket at air inlet end
Monitors pressure differential between inside and outside of motor to actuate SPDT switch when pressure drops below preset value giving an immediate indication that the air supply to the motor is reduced. Applicable to forced ventilated motors with either motor mounted blower or separately forced ventilated by customer supplied air. Since motors dependent on force ventilation will have a rapid rise in temperature after the air supply is interrupted, the customer must take immediate corrective action when the switch trips.

Contacts rated 15 amps, 120-480 volts, 60 Hz a-c resistive; ⅛ hp at 125 volts; ¼ hp at 250 volts, 60 HZ a-c. Applicable to frames B180ATZ thru B1600AT.

132	**Switch with standard enclosure**–motor mounted	$650
133	**Switch with weatherproof enclosure**–motor mounted **NOTE:** Price this Mod. for explosion proof switch on non-explosion proof motor.	$950

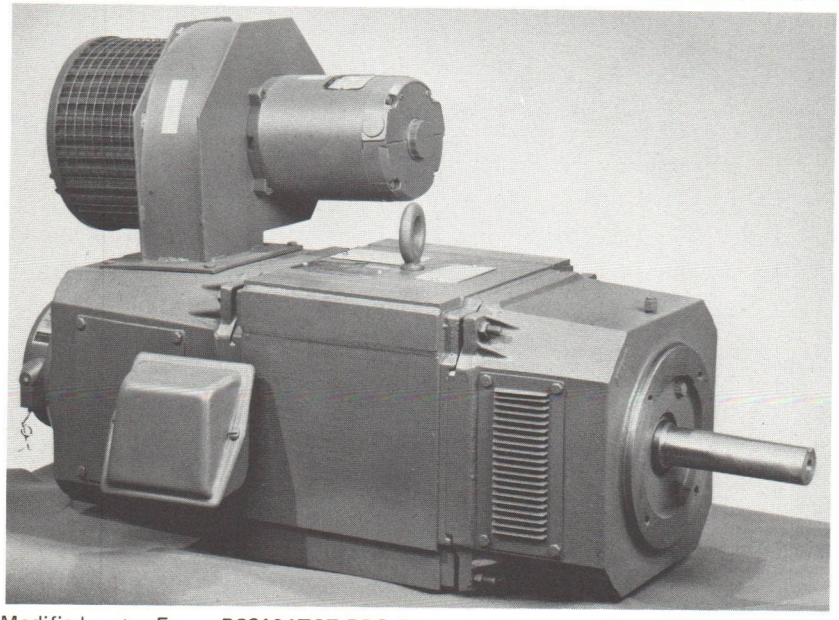
140	**BRACKETS**	68	86	108	162	251	419	527	999	1317	—	—	—	—

NEMA C-Face or D-flange bracket with standard dimensions. C-Face available on frames DB180ATCZ thru B360ATCZ. D-flange available on frames DB180ATDZ thru B500ATDZ. Refer to Mod. 275 and 276 for special seals required when oil will be around the shaft.

NOTE: NEMA defines different shaft dimensions for A-C and D-C C-Face motors. Since standard C-Face reducers require NEMA A-C motor shaft dimensions, specify NEMA A-C Motor C-Face size when D-C motor will be connected to a reducer. No special price addition other than this modification is required for NEMA A-C C-Face and shaft.

IMPORTANT: Motor C-Face is intended for mounting auxiliary equipment such as pumps, gears, etc. When mounted horizontally, frames B280ATCZ thru B360ATCZ should be supported by the feet and not by the C-Face. Installations requiring a horizontally mounted motor without feet should use a D-flange bracket.

DISCOUNT–RM072, RM073, RM074, RM075



Modified motor Frame B2810ATCZ DPG-FV with C-Face, footless frame, blower with filter and TGF 2100-00A tachometer generator.

MODIFICATIONS

BRAKES

150 Brakes–Disc Type
Motor Mounted (includes Mounting Price).

These motor-mounted brakes are continuously rated, non-adjustable, electrically released and spring set applicable for both holding and stopping service within the nominal torque ratings listed. Brakes used for frequently repeated stopping service or other severe applications may be limited to thermal capacity and should be referred to Reliance Electric.

Motor mounting position, i.e., horizontal or vertical must be specified on the order.

Brakes can be mounted on frames thru B400ATZ on all enclosures except TEAO–INLINE Blowers and TEFC B400ATZ Frames. Frames B500ATZ and larger must have separately mounted shoe brakes–add standard double shaft extension for customer mounting of brake wheel.

For some combinations of brake and motor, the brake may extend below the motor feet. Special motor mounting is required to provide clearance. Refer to Dimension Section.

Add space heater on brake, when required, per Mod. 282.

Refer to Reliance Electric for special brakes and brakes of specific manufacturer.

Nominal Brake Ft. lbs. (1)	A-C Coil (230/460V 60 Hz)				D-C Coil (120V or 240V)	
			UL Listed			
	Standard Enclosure	Dust-Tight Waterproof	Class I, Group D	Class II, Groups E, F and G	Standard Enclosure	Dust-Tight Waterproof
3(2)	$ 606	$ 710	$ 1170	$ 1170	$ 720	$ 1025
6(2)	606	755	1230	1230	788	1035
10(2)	777	810	1795	1875	810	1115
15(2)	833	923	1910	1970	990	1238
25	945	1260	2100	2200	1283	1553
35	1145	1395	2460	2650	1373	1733
50	1283	1598	2865	2975	1508	1958
75	1733	2115	3450	3574	1800	2525
105	2250	2700	4150	4301	2475	3195
125	3038	3600	8490	8490(3)	3488	4230
175	4298	4973	9690	9690(3)	4523	5513
230	4838	5558	10090	10090(3)	5423	6615
330	6008	6323	10490	10490(3)	7155	7853
440	6795	6840	N/A	N/A	8348	8798
550	7380	8348	N/A	N/A	8663	11003

(1) Nominal Static Torque ft. lbs. = $\frac{HP \times 5250}{\text{Motor Base Speed rpm}}$ for brake rated at 100% of motor torque.

(2) Refer to Mod. 151
(3) Class II, Group E and F only

151 Brake-Manual Release — **Add 10% to Brake Price**
Add to brake price when manual release is required on brakes 3 thru 15 ft. lbs. Manual release is supplied as standard on brakes rated 25 ft. lbs. and larger.

152 Brake Limit Switch — **$310 List**
Indicates condition of brake. Specify if switch is to be OPEN or CLOSED when brake coil is energized.

155 Brush Wear Sensor
Provides output signal from motor when brushes wear to a predetermined length. Signal gives indication of brush wear so that corrective action may be taken to prevent malfunction of the motor and possible damage to the commutator from worn brushes. The voltage signal is the same magnitude as the motor armature voltage.

Add for ESP brushes and current isolation network installed in motor with special leads terminated in a conduit box(4)
Frames B180ATZ–B280ATZ–**add $400 per motor**
Frames B320ATZ–B400ATZ–**add $610 per motor**
Frames B500ATZ–B840AT–**add $800 per motor**
Frames B960AT–**add $1510 per motor**

(4) Note: Signal return isolation network is usually mounted in control cabinet but may be mounted in motor conduit box when specified for an additional **$120** list per motor.

Mod. No.	MODIFICATION	MOTOR BASIC LIST PRICE												
		Up to $1250	$1251 to $1796	$1797 to $2789	$2790 to $4874	$4875 to $6609	$6610 to $11961	$11962 to $21068	$21069 to $30875	$30876 to $49314	$49315 to $78852	$78853 to $126144	$126145 to $201825	$201826 and Up
		List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price
160	**BUS BAR TERMINATIONS**	—	—	—	—	—	—	$ 320	$ 320	$ 450	$ 450	$ 450	—	—
	Provides bus bar for armature and series fields terminations instead of the standard leads with terminal lugs. Applicable to frames B400ATZ thru B680ATZ. (Frames B840AT and larger have bus bar terminations as standard.)													
	CONDUIT BOX (Terminal Housing) Refer to General Information Section for description of standard conduit box.													
170	One size larger than standard. Not applicable to frames B400ATZ and larger. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	$ 35	$ 35	$ 45	$ 68	$ 68	$113	$ 135	$ 180	$ 225	$ 225	—	—	—
171	Cast iron, standard sizes. Not applicable to frames B400ATZ and larger.	68	68	90	135	225	315	450	540	675	—	—	—	—
172	Mill type-Heavy gauge, large rectangular metal box. Standard for frames B400ATZ and larger. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	68	68	90	135	225	315	450	540	675	—	—	—	—
173	Explosion-Proof Conduit Box on Separately Ventilated Motor. Add to pipe-in, pipe-out (separately ventilated Mod. 183) motor only. Limited to ratings 200 hp and smaller. The addition of this modification does *not* provide U/L listed explosion-proof motor. Refer to National Electric Code or Reliance Electric for application details. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	180	180	180	270	450	833	1035	1575	1980	2250	—	—	—
174	Oversize Mill Type Conduit Box–Applicable to Frames B400ATZ thru B960AT.	—	—	—	—	—	—	1000	1000	1200	1200	1200	$1400	—
175	**Topmounted Conduit Box**	Frames DB180ATZ–Standard			Frames DB180ATZ–B280ATZ–No Charge			Frames B320ATZ–B680ATZ–**Add $360 List**						

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

MOTOR BASIC LIST PRICE

Mod. No.	MODIFICATION	Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
	COUPLING–MOUNTING ON MOTOR													
177	Mounting of customer's ***finished*** bore coupling on motor shaft. Finished bore coupling must be received at plant four weeks prior to shipment with customer property tag attached.	$435	$435	$435	$435	$435	$435	$ 540	$ 540	$ 540	$ 729	$ 729	$ 729	$1155
177D	Mounting of Dodge/Reliance ***finished*** bore coupling on motor shaft. Price does not include coupling. Finished bore coupling must be received at plant four weeks prior to shipment with customer property tag attached.	200	200	200	200	200	200	250	250	250	350	350	350	590
178	Mounting of customer's ***unfinished*** bore coupling on motor shaft. Unfinished bore coupling must be received at plant eight weeks prior to motor shipment with customer property tag attached.	653	653	653	653	653	653	810	810	810	1094	1094	1094	1733
178D	Mounting of Dodge/Reliance ***unfinished*** bore coupling on motor shaft. Price does not include coupling. Unfinished bore coupling must be received at plant eight weeks prior to motor shipment with customer property tag attached.	330	330	330	330	330	330	500	500	500	800	800	800	1295
	COVERS AND ENCLOSURES													
180	**Vertical Mount Drip Covers** Special drip covers to insure dripproof protection for vertically operated foot or flange mounted motors. Motor must be force ventilated when mounted vertical shaft up.	21	41	62	89	135	210	365	507	725	—	—	—	—
181	**Splashproof covers** for dripproof machines to meet NEMA MG1-1.25 requirements for splashproof enclosures. Provides protection against liquid drops or solid particles from entering the motor at any angle not greater than 100 degrees downward from the vertical.	102	156	210	318	405	405	405	405	608	608	608	608	810
182	**Transparent Polycarbonate plastic hand hole cover** as substitute for one solid (not screen nor louvered) steel cover. This substitution does not change the basic enclosure (dripproof, etc.) Cannot be added to DB180ATZ frames with DPG enclosure or any explosion-proof enclosure.	135	135	135	135	203	203	203	203	270	270	270	270	270
183	**Separately Ventilated** For applications where ventilating air is piped into the machine from an external source. The inlet pipe can be fastened to one end bracket, and, if required and specified, an outlet pipe can be fastened to the other end bracket. Price addition does not include blower or pipe. Location of air entry and air exhaust, if used, should be specified on order. The shaft-mounted internal fan is omitted on all machines specified for separate ventilation. Motors must not be operated without the separate air supply. Refer to Application Data Section for separate ventilating air requirements. (To insure adequate protection of a separately ventilated motor against loss of cooling air, an overtemperature device per pages 54 and 55 for interlocking with the controller overload protection circuit is recommended and should be added as standard practice. An air pressure differential switch, Mod. 132 or 133, is also recommended.)	89	129	203	332	332	332	332	332	332	662	662	662	—
	TOTALLY ENCLOSED AIR OVER (TEAO) For applications requiring a totally enclosed fan-cooled motor with external ventilation independent of motor shaft speed. Required for continuous constant torque operation below 60% base speed													
185	**TEAO Inline–Add to TEFC Price** Similar to TEFC construction, except with external ventilating fan driven by a-c motor flange mounted to fan shroud. Double shaft extension or tachometer mounting is not available except RE045 tachometer may be nested between the motor frame and external fan on frames B320ATZ thru B400ATZ and TGF2100-00A tachometer may be mounted on frames B250ATZ thru B400ATZ. Includes 3 phrase, 60 Hz, 230/460 volts a-c induction motor without starter. Available in frames B180ATZ–B400ATZ. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	356	356	399	647	647	687	1040	1457	2127	—	—	—	—
186	**TEAO Piggyback–Add to TEFC Price** Similar to TEFC construction except with top mounted blower and shroud to direct ventilating air over motor frame. Includes 3-phase, 60 Hz 230/460 volts a-c induction motor without starter. Available in frames B180ATZ–B500ATZ. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	710	710	797	1488	1677	1859	2060	2287	4235	—	—	—	—
187	**TEAO Inline Explosion-Proof–Add to explosion-proof TEFC motor price.** Similar to TEFC construction except with external ventilating fan driven by explosion-proof a-c motor flange mounted to fan shroud. Double shaft extension or tachometer mounting is not available. Includes 3-phase, 60 Hz, 230/460 volts a-c induction motor without starter. Available in frames X180A thru XB360ATZ. Refer to Pricing Section for applicable classes and groups.	1300	1300	1300	1300	1300	1340	2050	2850	—	—	—	—	—
188	**TEAO Piggyback Explosion-Proof–Add to explosion-proof TEFC price.** Similar to TEFC construction except with top mounted blower and shroud to direct ventilating air over motor frame. Includes explosion-proof, 3-phase, 60 Hz, 230/460 volts a-c induction motor without starter. Available in frames X180A thru XB360ATZ. Refer to Pricing Section for applicable classes and groups.	1980	1980	1980	1980	2190	2370	2650	3490	4830	—	—	—	—
190	**Dust-Proof/Taconite Features** For totally enclosed machines only for protection against fine, abrasive dust such as taconite. Provides non-magnetic labyrinth-path seal on all exposed shafts. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	170	170	243	378	494	610	785	850	985	2442	3750	3750	3750

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION	MOTOR BASIC LIST PRICE Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
191	XT FEATURES	$ 525	$ 525	$ 525	$ 655	$ 705	$ 935	$1155	$1628	$1856	$2300	$2910	$4640	$4640

The Reliance XT motor is designed for operation in damp locations where the motor will be subjected to corrosive conditions. Typical applications are paper, chemical, petroleum, fertilizer and plastics industries.

XT motors are provided in totally enclosed nonventilated, totally enclosed fan-cooled, totally enclosed separately-ventilated, totally enclosed air-over and totally enclosed dual-cooled enclosures.

XT MOTOR CONSTRUCTION INCLUDES THE FOLLOWING FEATURES:

- Interior and exterior surface of frame painted with epoxy enamel.
- Armature and shaft (except shaft extension) painted with epoxy enamel.
- Stainless steel or neoprene slinger mounted on external shaft extensions.
- External fan on TEFC motors is plastic or epoxy coated cast iron.
- Fan cover on TEFC motors is finished with epoxy enamel.
- Automatic breather drains provided for positive drain.
- Assembled motor with mounted accessories painted with epoxy enamel.
- Conduit box has pipe tap lead outlet. Neoprene gaskets on cover and box to frame. Box construction is–
  B180ATZ–B360ATZ–Epoxy coated cast iron.
  B400ATZ and up–Epoxy coated mill type.
- Bracket to frame rabbet fit sealed with special sealing compound.
- Handhole covers sealed with neoprene gaskets.
- All hardware corrosion resistant.

XT construction avoids the use of exposed aluminum parts. The exception is totally enclosed dual-cooled air to air heat exchangers which have aluminum tubes. Mod. 194 provides a heat exchanger with stainless steel tubes for severe applications.

Motor accessories such as brakes must be specified and priced as totally enclosed construction for XT motors.

Motors located in damp, moist environments must have space heaters (Mod. 280) or the fields energized at reduced (usually 50%) voltage to protect against condensation when the motor is not operating.

Motors operating in dirty areas with fine abrasive dust such as taconite surrounding the motor should have Mod. 190 Dust proof/taconite features added in addition to this modification.

NOTE: Not available on DB180ATZ frame. To obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.

Mod. No.	MODIFICATION	MOTOR BASIC LIST PRICE Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
192	OUTDOOR DUTY–WEATHER PROOF	$ 662	$ 662	$ 662	$ 849	$1037	$1380	$1570	$1770	$2022	$3130	$3960	$6310	$6310

This modification provides a motor suitable for operation outdoors subject to direct weather conditions and for applications where water will be applied to the motor in the form of a stream from a hose. Applicable enclosures are totally enclosed nonventilated, totally enclosed fan-cooled, totally enclosed separately-ventilated, totally enclosed air-over and totally enclosed dual-cooled.

Outdoor duty motors include the features of XT motors (Mod. 191) plus extended hoods over the fan inlets on TEFC, TEAO and TEDC enclosures to prevent water being blown over the frame by the fan or blower. Additional sealing around the hand hole covers is provided to prevent entrance of water applied from a hose.

Totally enclosed dual-cooled enclosures have aluminum tubes. For outdoor or indoor applications containing contaminants corrosive to aluminum, the motor must be specified with Mod. 194 to provide a heat exchanger with stainless steel tubes.

Outdoor duty motors must have space heaters (Mod. 280) or the fields energized at reduced (usually 50%) voltage to protect against condensation when the motor is not operating.

Motor accessories such as brakes must be specified and priced as suitable for outdoor use. Standard tachometers are not recommended for outdoor duty. Motors operating in dirty areas with fine abrasive dust such as taconite surrounding the motor should have Mod. 190 Dustproof/taconite features added in addition to this modification.

NOTE Not available on DB180ATZ frame. To obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.

Mod. No.	MODIFICATION	MOTOR BASIC LIST PRICE Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
193	WASHDOWN DUTY	$635	$635	$635	$810	$970	$1166	—	—	—	—	—	—	—

Special enclosure designed for frequent washdown by high pressure water or steam as used in dairies and other food processing plants. Applicable to TENV and TEFC enclosures only for Frames DB180ATZ thru B280ATZ.

WASHDOWN DUTY MOTOR CONSTRUCTION INCLUDES THE FOLLOWING FEATURES:

- Interior and exterior surface of frame painted with epoxy enamel.
- Armature and shaft (except shaft extension) painted with epoxy enamel.
- Stainless steel or neoprene slinger mounted on external shaft extensions.
- External fan on TEFC motors is plastic or epoxy coated cast iron.
- Fan cover on TEFC motors is finished with epoxy enamel.
- Conduit box has pipe tap lead outlet. Neoprene gaskets on cover and box to frame. Box construction is epoxy coated cast iron.
- Bracket to frame rabbet fit sealed with special sealing compound.
- Hand hole covers sealed with neoprene gaskets to prevent entrance of water applied from hose.
- All hardware corrosion resistance.
- Automatic breather drains provide for positive drain.
- Assembled motor with mounted accessories painted with epoxy enamel.

Motor accessories such as brakes must be specified and priced as totally enclosed construction for washdown duty motors. Standard tachometers are not recommended for wasdown duty.

NOTE: Specify XT features or Outdoor Duty for motors operating in atmospheres corrosive to aluminum.

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION	Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
		MOTOR BASIC LIST PRICE												
194	**STAINLESS STEEL TUBES**–For Totally-enclosed dual-cooled heat exchangers	Frame B500ATZ–**Add $9,000 List Price** Frame B580ATZ–**Add $19,000 List Price** Frame B680ATZ–**Add $19,000 List Price**												
	Standard air-to-air heat exchange for TEDC enclosures has aluminum tubes. Certain applications requiring XT Features on Outdoor Duty may require, in addition, a heat exchanger with stainless steel tubes. These applications include areas near the sea coast or in corrosive industrial environments. XT Features (Mod. 191) or Outdoor Duty (Mod. 192) should be added when this modification is selected. Standard air-to-water heat exchangers for TEDC enclosures have copper tubes. Refer to Reliance Electric for air-to-water heat exchangers with copper-nickel tubes.													
195	**DRAIN PLUGS**–Automatic Breather drain at lowest of motor	**$120 list per motor**												
196	**DRAIN PLUGS**–Standard "T" drain at lowest point of motor	**$30 list per motor**												
200	**EXPORT BOXING**	**Add 5% (minimum $200) to Fully-Modified Motor Price Including Accessories**												
	Provides crating of motor for overseas shipping (Does not provide for any overseas fees, documentation, etc.)													
210	**FOOTLESS FRAME**	$ 54	$ 54	$ 89	$116	$156	$ 230	$ 345	$ 473	$ 675	—	—	—	—
	Motor feet are removed. Add C-Face or D-flange Mod. 140 for mounting motor													
	FIELD WINDINGS													
220	**Dual Voltage Shunt Field**	183	183	183	183	230	230	230	230	305	$ 473	$ 675	$1182	—
	Field may be used to provide series-parallel connections for dual voltage such as 150/300 volts or 120/240 volts. The higher voltage must be the standard field voltage; that is, 150, 240 or 300 volts.													
221	**Continuous Duty Shunt Field**	338	338	338	404	554	741	1100	1590	1590	—	—	—	—
	Continuous Duty Shunt Field for Standby Condition Standard continuous duty DPG, TEFC and TENV stabilized shunt wound SUPER RPM D-C motors have continuous duty fields capable of continuous excitation at standstill (armature circuit not energized) under normal industrial conditions. This addition is required for continuous fields on straight shunt or intermitant duty rated (30 or 60 minute) motors. **IMPORTANT: Motors designed for forced ventilation or with a dual-cooled heat exchanger as standard must have cooling air when fields are excited at rated voltage. Installations having the air supply interrupted when the motor is not operating must have field disconnected or field voltage reduced to 50% rated by means of field economizing resistor and relay. Continuous duty fields cannot be provided on these motors.**													
222	**Standard Compound Field**	122	122	165	212	258	345	446	770	1215	1660	2160	—	—
	A standard compound wound motor has a speed regulation of approximately 30% in accordance with NEMA Standard MG1-12.64B. Compound wound motors are not suitable for operation over an extended speed range by shunt field weakening because of the very high no-load speeds that may result. A full load range of 1.25:1 is the usual maximum. **WARNING: Motor control must limit motor speed to maximum safe speed listed in Application Data section, and stamped on motor nameplate.**													
223	**Straight Shunt Field**	21	41	68	116	183	345	446	770	1215	1660	2160	—	—
	A straight shunt motor consists of a shunt field only with no series winding. It is commonly used on regenerative drives. **WARNING: Regulation and stability usually require the addition of a speed regulator to the drive. Contact Reliance Electric if a stable straight shunt motor is required.**													
224	**Series Field**	122	122	165	212	258	345	446	770	1215	1660	2160	—	—
	WARNING: Series wound motors must be solidly connected to the driven machine and never operated without load to avoid possible destructive high speeds. The speed of a series motor is defined only at rated load.													
225	**Special Field Voltage**	365	365	365	365	459	459	459	459	608	**Refer to Reliance Electric**			
	Standard shunt field voltages are specified on basic price pages in Pricing Section. Add this modification for 90, 120, 125, 150 or 300 volt fields when not listed as a standard field voltage.													
240	**FINISH–Special Color**	102	102	102	102	128	201	324	513	743	930	1160	1449	—
	Special color or type of paint compatible with our standard air dry primer. Refer to General Information section for description of standard finish.													
243	**GEARMOTOR PROVISIONS**	460	478	536	516	862	1161	1460	2270	3038	—	—	—	—
	Includes a D-flange, Footless Frame, Shaft lip Seal and Special shaft for with threads and nut for Gear Pinion Mounting.													
245	**GREASE FITTINGS**	**$10 list per motor**												
	Alemite No. 1610 fittings to replace pipe plugs provided as standard. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.													
246	**GREASE–Low Temperature**	**$86 list per motor**												
	Special low temperature grease for operation to −40° C. At temperatures below 0° C, base speed and regulation may not be in accordance with NEMA Standards. Motors located in cold moist environments should have space heater (Mod. 280) added to prevent condensation of moisture when unenergized for extended periods. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.													
250	**LEADS, EXTRA LENGTH**–add per foot	41	41	41	41	41	41	75	75	75	108	108	108	—
	For armature and field leads longer than standard.													
260	**OVERLOAD, SPECIAL MOMENTARY** A. In accordance with NEMA MG1-12.57 standard direct-current motors shall be capable of operating with successful commutation for a period of one minute with a current load of 150 percent of the base speed full-load current at all speeds within the rated speed range. Refer to Reliance Electric for momentary overloads greater than standard. Specify magnitude, duration and frequency of occurence. B. For machines capable of carrying 125% rated load current for two hours use the price of the listed machine with the same enclosure and speed and with a horsepower rating equal to 125% of the nominal rating. If the rating thus calculated is not standard, use the next higher standard rating.													

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION	MOTOR BASIC LIST PRICE Up to $1250 List Price	$1251 to $1796 List Price	$1797 to $2789 List Price	$2790 to $4874 List Price	$4875 to $6609 List Price	$6610 to $11961 List Price	$11962 to $21068 List Price	$21069 to $30875 List Price	$30876 to $49314 List Price	$49315 to $78852 List Price	$78853 to $126144 List Price	$126145 to $201825 List Price	$201826 and Up List Price
265	**SERVICE FACTOR** Standard listed motors are for 1.0 service factor. For greater than standard service factor, use the price of the listed machine with the same enclosure and speed and with a horsepower rating equal to the rated hp times the required service factor. If the hp thus calculated is not standard, use the next higher standard rating.													
	SHAFT MODIFICATIONS													
270	**Standard Opposite Drive End Shaft** Commutator end extension having dimensions per the standard dimension sheets.	$ 35	$ 41	$ 48	$ 75	$122	$176	$210	$297	$338	$ 375	$ 375	$ 675	$ 675
271	**Shaft Guard** Provides a protective cover over front end shaft extension. **WARNING: Shaft Guard is recommended for shaft extension not protected at all times by customer.**	59	59	59	68	68	80	80	80	102	102	153	153	153
272	**Special Shaft Diameter-Drive End** Not applicable to frames B580ATZ and larger. Standard diameter is maximum allowable on these frames. Non-standard shaft having dimension less than standard diameter or larger than standard with the maximum diameter as listed in Table IV below.	122	122	122	122	170	197	243	318	446	630	630	630	—
273	**Special Shaft Diameter–Opposite Drive End** Not applicable to frames B580ATZ and larger. Standard diameter is maximum allowable on these frames. Do not add Mod. 270 when adding this Mod. Non-standard commutator end shaft extension shaft having dimension less than standard diameter or larger than standard with the maximum diameter as listed in Table IV below.	157	163	170	197	292	373	453	615	784	1005	1005	1005	—
274	**Special Shaft Length** Non-standard length for either drive end or opposite drive end shaft (Use twice modification price for non-standard length on both ends). Maximum length limited to two times standard length. **CAUTION: Belted drives using smaller than standard diameter shafts and/or longer than standard shafts must be referred to Reliance Electric with complete belt drive data–See Order Check List, General Information section.**	122	122	122	122	170	197	243	318	446	630	630	630	630
275	**Shaft–Lip Seal** This modification provides a lip seal on the drive end to protect the bearing when operated with oil splashing against the shaft. Typical application is on a horizontal motor mounted to a gear case where the stationary oil level is below the motor shaft. Seals operated dry for extended periods will be damaged.	135	135	135	135	135	135	135	210	210	—	—	—	—
276	**Shaft–Face Seal** This modification provides a face seal on the drive end to protect the bearing when operated with a head of oil against the shaft. Typical application is a vertical shaft-up motor connected to a gear case with oil against the motor shaft. Seals operated dry for extended periods will be damaged. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	670	670	670	670	670	670	670	960	960	—	—	—	—
277	**Shaft Step** Each step or reduced diameter from standard straight shaft. Thread modification No. 278 is usually required with this Mod.	27	27	27	27	50	60	70	90	130	—	—	—	—
278	**Shaft Threads** Class 2A right hand thread of size compatible with shaft diameter. Step modification No. 277 is usually required with this Mod.	27	27	27	27	50	60	70	90	130	—	—	—	—
279	**Shaft Tapered** Provides standard NEMA a-c shaft tapered 1¼ inches per foot. May be added for either drive end or opposite drive end shaft extension. Includes threads, washer and locknut. Specify "U" or "FU" required.	149	149	149	149	220	247	313	403	576	—	—	—	—
280	**SPACE HEATERS** Mounted inside the motor. Recommended to prevent condensation of moisture for motors remaining unenergized for long periods of time. Standard heater is single phase 120, 230 or 460 volts, 50/60 Hz. Leads are terminated in motor conduit box unless Mod. 281 is specified. Space heaters not available on explosion-proof frames XB400ATZ–XB500ATZ. **NOTE:** Not available on DB180ATZ frame–to obtain this modification, price a B180ATZ frame by using the 500 volt armature basic motor price at same hp and base speed.	122	122	122	122	291	291	291	291	356	356	423	423	494
281	Separate Conduit Box for Motor Space Heater Leads. Not available on explosion-proof frames or DB180ATZ frames.	207	207	207	207	377	377	377	377	440	440	440	440	440
282	Space Heaters on Motor Mounted Brake. Add when space heater is mounted in motor.	122	122	122	122	180	180	180	180	240	—	—	—	—
290	**SPEED LIMIT SWITCH** NEMA I enclosed centrifugal switch flange or scoop mounted on commutator end bracket. Provides output contact when motor reaches a predetermined calibrated speed. Form C contacts rated 120, 240 or 480 volts. 60 Hz, 360 volt-amps or 125V d-c at 25 amp, 250V d-c at 12 amp.	**Add $1283 per motor.**												
291	UL listed enclosure–Otherwise similar to Mod. 290, **add $2950 per motor.**													

TABLE IV–MAXIMUM SHAFT DIAMETER ALLOWABLE FOR MODIFICATIONS 272 and 273

Frame	Opposite Drive End: Standard "FU"	Opposite Drive End: Maximum "FU" per Mod. 273	Drive End: Standard "U"	Drive End: Maximum "U" per Mod. 272
DB180ATZ	1.125	1.125	1.125①	1.125①
B180ATZ	1.125	1.125	1.375	1.500
B210ATZ	1.375	1.500	1.625	1.750
B250ATZ	1.625	1.750	1.875	1.875
B280ATZ	1.875	1.875	2.125	2.125

①"U" of 1.375" available with D-Flange Bracket.

Frame	Opposite Drive End: Standard "FU"	Opposite Drive End: Maximum "FU" per Mod. 273	Drive End: Standard "U"	Drive End: Maximum "U" per Mod. 272
B320ATZ	2.125	2.125	2.375	2.500
B360ATZ	2.250	2.310	2.625	2.750
B400ATZ	2.875	3.000	2.875	3.625
UB400ATZ	2.875	3.000	3.250	3.625
B500ATZ	3.625	3.625	3.625	4.125
UB500ATZ	3.625	3.625	4.125	4.125

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION
305	**Speed range by field weakening greater than standard.** Maximum field weakened speeds without price additions are listed in the Pricing Section or in Tables V thru VIII. For unlisted speeds, use the additions for the next higher speed listed. Frame sizes may be different from those listed for lower speeds. Additions apply to motors used on the power supplies indicated. **WARNING: Inherent speed regulation may cause high speed field weakened motors to exceed maximum safe speeds at light loads. Motor control must be provided to hold the maximum speed under any load condition, including no-load, within the maximum safe speeds listed on page 59. Refer to Reliance for values of inherent speed regulation.**

TABLE V–PERCENTAGE ADDITION TO BASIC MOTOR PRICE FOR EXTENDED FIELD RANGE ON SUPER RPM MOTORS RATED 240VOLT ARMATURE, CONTINUOUS DUTY WITH ENCLOSURE AND POWER CODE AS INDICATED.

NOTE: Frame size for motors with extended field range may differ from basic frame sizes.

Base Speed	Max. Speed by Field Control	Horsepower–240 Volt Armature																			
		Power Code A, C or D																	Power Code A or C			
		DPG, DPFV, TENV, TEFC, TEAO												DPG, DPFV								
		½	¾	1	1½	2	3	5	7½	10	15	20	25	30	40	50	60	75	100	125	150	200
3500	3850	...	...	...	0	0	0	0	10	10	10	10	10	10	...	...	...	...	...	...	...	...
2500	3000	...	...	...	0	0	0	0	0	0	0	0	0	0	0	10	10	10	...	...	...	...
1750	2000	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2100	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10	10	...
	2300	...	...	0	0	0	0	0	0	0	0	0	0	0	10	10	10	10	10	10	...	...
	2500	...	...	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...	...
	2700	...	...	10	10	10	10	10	10	10	10	10	10	10	10	10	...	...	...	...	...	...
	3000	...	...	...	...	20	20	20	20	20	20	20	20	20	20	20	...	...	20	...	...	...
1150	1800	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	2300	...	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	20	...	...	...	...
	2700	...	20	20	20	20	20	20	20	20	20	20	20	20	20	20	25	...	...	...	...	...
	3450	...	...	...	...	...	...	...	...	...	25	25	25	25	25	25	...	...	...	...	...	...
850	1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...
	2550	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	20	...	...	...
	3400	20	20	20	20	20	20	20	20	20	20	25	25	25	...	...	...	...	...	...	...	...
650	1600	...	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1950	...	...	...	...	10	10	10	10	10	10	10	10	10	10	10	10 Ⓛ	10	10 Ⓛ	15	15	15
	2800	...	...	...	...	20	20	20	20	20	20	20	20	20	...	...	...	...	...	...	...	...
	3000	...	...	...	...	30	30	30	30	30	30	30	30	30	...	...	...	...	...	...	...	...
500	1500	...	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...	...	...
	2000	...	...	...	...	10	10	10	10	10	10	10	10	10	10	10	10	10	15	...	...	...
	2500	...	...	...	...	15	15	15	15	15	15	15	...	...	...	...	...	15 Ⓛ	...	...	...	...
	3000	...	...	...	...	25	25	25	25	25	25	25	...	...	...	...	...	...	...	...	...	...
400	1200	...	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600	...	...	...	...	10	10	10	10	10	10	10	10	10	10 Ⓛ 1500	10 Ⓛ	10 Ⓛ	10 Ⓛ	...	...	...	...
300	900	...	...	...	...	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1200	...	...	...	...	10	10	10	10	10	10	10	10 Ⓛ	0	0	0	0	0	...	...	...	...
	1500	...	...	...	...	15	15	15	15	15	15	15	10 Ⓛ	10 Ⓛ	...	10 Ⓛ	10 Ⓛ	10 Ⓛ	...	...	...	...

Ⓛ Power Code A or C only.

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

MOD. NO. 305 CONT.–SPEED RANGE BY FIELD WEAKENING GREATER THAN STANDARD.

TABLE VI–PERCENTAGE ADDITION TO BASIC MOTOR PRICE FOR EXTENDED FIELD RANGE ON SUPER RPM MOTORS RATED 500 VOLT ARMATURE, CONTINUOUS DUTY WITH ENCLOSURE AND POWER CODE AS INDICATED.

NOTE Frame size for motors with extended field range may differ from basic frame size.

Base Speed	Max. Speed by Field Control	Horsepower–500 Volt Armature														
		Power Code A, C or D													Power Code A or C	
		DPG, DPFV, TENV, TEFC, TEAO					DPG, DPFV, TEDC									
		7½	10	15	20	25	30	40	50	60	75	100	125	150	200	250
2500	3000	0	0	0	0	0	0	0	10	10	10	...	...	...	...	...
	3500	...	...	...	...	...	20	20	20	...	...	...	...	...	...	...
1750	1900	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	10	10
	2100	0	0	0	0	0	0	0	0	0	0	15	20	20	20	20
	2300	0	0	0	0	0	0	10	10	10	10	15	20	20	20	20
	2400	10	10	10	10	10	10	10	10	10	10	10 (1)	25	20	20	20
	2500	20	20	20	20	20	20	20	10	20	10 (1)	10 (1)	25	20 (1)	20	20
	2750	25	25	25	25	25	25	...	...	...	...	...	...	...	...	...
	3000	25	25	25	25	25	25	...	...	...	...	...	...	...	...	...
1150	1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1800	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	2000	0	0	0	0	0	0	0	0	0	0	0	0 (1)	0	10	10
	2200	10	10	10	10	10	10	10	10	10	15	20	10 (1)	20	10	10
	2300	10	10	10	10	10	15	15	15	15	15	20	10 (1)	20	20	10
850	1700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	2200	15	15	15	15	20	15	15	15	15	15	15	15	15	30	30
	2400	15	15	15	15	15	15	15	15	15	15	20	20	30	30	30
	2500	15	15	15	15	20	15	15	15	15	15	15	...	30	30	30
650	1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1950	10	10	10	20	20	10 (1)	10	10	10	10	15 (1)	15 (1)	15 (1)	15	20
500	1400	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1500	0	0	0	0	0	0	0	0	0	0	0	0	0	0	10
	2000	10	10 (1)	10 (1)	10 (1)	10 (1)	10	10	10	10	10	15 (1)	15 (1)	15 (1)	15	(1850 10)
400	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1600	10	10	10	10	10	10	10 (1)	10 (1)	10 (1)	10 (1)	10 (1)	10 (1)	10 (1)	15	20
	1800	...	...	...	...	...	...	...	...	...	...	30 (1)	30 (1)	30	15	20
300	1000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	1100	10	10	10	10	10	10	10	0	0	0	0	0	0	0	0
	1200	10	10	10	10	10	10	10	0	0	0	0	0	10 (1)	10	10
	1300	...	...	...	...	...	...	...	...	...	...	20	20	20 (1)	25	...
	1600	...	...	...	...	...	...	...	...	...	...	25	...	...	...	...

(1) Power Code A or C only.

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION
305 Cont.	**Winder Duty**–SUPER RPM motors with base speeds of 650 rpm and lower are suitable for application on reel drives with a special duty called "winder duty." These motors drive the center of a reel for winding a coil of strip material. The application is characterized by a continuously varying speed in the field speed range, limited overload requirements with peak overloads needed for acceleration and deceleration only and short time operation at the maximum speeds. Winder duty overload performance is defined as follows: 650 rpm base speed: 150% load for 1 minute up to 1600 rpm tapering to 100% load for 1 minute at 400% base speed. 500, 400 and 300 rpm base speeds: 150% load for 1 minute up to 300% base speed tapering to 100% load for 1 minute at 600% base speed. Refer to Tables VII and VIII for percentage addition to motor price for extended winder duty field weakened speed. Frame size may differ from basic frame size. **NOTE: Refer to Pricing Section for ratings that must be forced-ventilated as standard.**

TABLE VII–PERCENTAGE ADDITION TO BASIC MOTOR PRICE FOR EXTENDED FIELD RANGE ON SUPER RPM MOTORS RATED 240 VOLT ARMATURE, WINDER DUTY IN DPG, DPFV OR TEDC ENCLOSURE.

Base Speed	Max. Speed by Field Control	Horsepower–240 Volt Armature, Power Code A or C																			
		½	¾	1	1½	2	3	5	7½	10	15	20	25	30	40	50	60	75	100	125	150
650	1950	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	2300	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	2400	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15
	2550	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	...	...
	2600	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	...	...	...	...
	3000	①	①	①	①	①	①	20	①	①	25	①	①	①	①	①	①	...	...	...	...
500	2000	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...
	2300	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...
	2400	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...	...
	2500	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...	...	...
	2750	20	20	20	20	20	20	20	20	20	20	20	20	20	20	...	...	...	...	...	...
	3000	①	①	①	①	①	①	20	20	①	30	15	25	25	①	25	25	...	...	...	...
400	1600	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...	...
	2000	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...	...
	2300	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	...	...	...	...	...
	2400	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	...	...	...	...	...
300	1200	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	...	...	...
	1500	10	10	10	10	10	10	10	10	10	10	10	10	10	10	15	15	15	...	...	...
	1800	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	...	...	...

① Contact Reliance Electric.

TABLE VIII–PERCENTAGE ADDITION TO BASIC MOTOR PRICE FOR EXTENDED FIELD RANGE ON SUPER RPM MOTORS RATED 500 VOLT ARMATURE, WINDER DUTY IN DPG, DPFV OR TEDC ENCLOSURE.

Base Speed	Max. Speed by Field Control	Horsepower–500 Volt Armature, Power Code A or C															
		7½	10	15	20	25	30	40	50	60	75	100	125	150	200	250	
650	1950	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	...
	2300	20	20	20	20	20	20	20	20	20	20	30	10	10	15	15	...
	2400	20	20	20	20	20	20	25	20	20	20	30	15	15	20	20	...
	2550	20	20	20	20	20	20	25	20	20	20	30	20	20	...	...	...
	2600	20	20	20	20	20	20	25	20	20	20	30	20	20	...	...	...
500	2000	10	10	10	10	10	10	...	...	...	10	10	10	10	10	10	...
	2300	20	20	20	20	20	20	...	...	...	20	15	15	15	15	15	...
	2400	20	20	20	20	20	20	...	...	...	20	20	20	20	20	20	...
400	1200	0	0	0	0	0	0	...	...	...	...	0	0	0	0	0	...
	1600	10	10	10	10	10	10	...	...	...	...	10	10	10	10	10	...
	2000	20	20	20	20	20	20	...	...	...	...	10	10	25	10	30	...
	2300	20	20	30	30	30	30	...	...	...	...	30	30	25	10	...	...
	2400	30	30	30	30	30	30	...	...	...	...	30	30	30	10	...	...
300	900	0	0	0	0	0	0	...	...	...	...	0	0	0	...	...	...
	1200	10	10	10	10	10	10	...	...	...	...	0	0	0	5	5	...
	1500	20	20	20	20	20	20	...	...	...	...	10	10	10	25	10	...
	1800	25	25	25	25	25	25	...	...	...	...	25	10	10	25	20	...

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	TACHOMETERS — MODIFICATION	List Price
	TACHOMETER GENERATORS–Mounted on D-C motor (Includes provision for mounting and all mounting hardware.)	
	A-C Tachometer–Type RE-045–45 volts/1000 rpm Motor Mounted	
310	**Standard RE-045**–Bracket mounted on DPG, TENV, SP, TEAO, TEDC enclosures–all without brakes. **NOTE:** Standard RE-045 tachometer may be flanged mounted between motor bracket and fan on TEAO In-Line frames B320ATZ thru B400ATZ only. Air-over shroud must be removed for access to tachometer.	$ 720
310A	**WATERPROOF (GASKETED) RE-045**–Bracket mounted on DPG, TENV, SP, TEAO, TEDC enclosures–all without brakes. **NOTE:** Waterproof RE-045 tachometer may be flanged mounted between motor bracket and fan on TEAO In-Line frames B320ATZ thru B400ATZ only. Air-over shroud must be removed for access to tachometer.	945
311	**Standard RE-045 Adapter Mounted on TEFC enclosures and all enclosures with brakes**	1005
	D-C TACHOMETER GENERATORS FLANGE MOUNTED ON D-C MOTOR (Includes provision for mounting and all mounting hardware)	
320	**RE-210**–100 or 200 volts/1000 rpm–Specify voltage.	3240
330	**BC-46**–30 volts/1000 rpm–Required for high speed motors	3738
331	**BC-46**–50, 100 or 200 volts/1000 rpm–Specify voltage	3564
340	**BC-42**–30 volts/1000 rpm–Required for high speed motors	2725
341	**BC-42**–50, 100 or 200 volts/1000 rpm–Specify voltage	2551
342	**Explosion-Proof UL listed** for Class I, Group D and Class II, Group E, F and G. **Add to BC-42 or BC-46 price.** A thermostat to provide over-temperature protection is mounted in the tachometer and must be connected in the control circuit to remove motor power if the thermostat is activated.	909
342A	**Taconite Duty–Add to BC-42 or BC-46 price.**	909
343	**Standard Double Shaft Extension–Add to BC-42 or BC-46 price.**	125
344	**Severe Duty**–For Outdoor or Washdown Duty–Provides shaft seals, stainless steel shaft and stainless steel nameplate. **Add to BC-42 or BC-46 price.**	1455
350	**5PY59J**–50 or 100 volts/1000 rpm–Specify voltage.	1477
353	**Standard Double Shaft Extension–Add to 5PY59J price.**	68
360	**Type TGF2100-00A** bearingless D-C tachometer–19 volts per 1000 rpm. Bracket mounted on DPG, TENV, SP, TEAO, TEDC enclosures all without brakes. **NOTE:** Tachometer may be flanged mounted between motor bracket and fan on TEAO In-Line frames B250ATZ thru B400ATZ frames only. Air-over shroud must be removed for access.	1182
361	**RE020**–20.8 volts/1000 rpm–Standard Enclosure–Add to Frames DB180ATZ–B280ATZ only.	1182
362	**RE020**–20.8 volts/1000 rpm–Gasketed Enclosure for Washdown Duty–Add to Frames DB180ATZ–B280ATZ only.	1410
	MAGNETIC PULSE GENERATORS — FLANGE MOUNTED ON D-C MOTOR (Includes provision for mounting and all mounting hardware)	
511	**RD11**–NEMA 140 Frame–Single output Standard PPR–1, 60, 120, 200, 240, 300, 360, 380 (Specify)	2395
515	Special PPR–2–600 (Specify)	3265
516	**RD-12**–NEMA 140 Frame–Dual isolated output Standard PPR–1, 60, 120, 200, 240, 300, 360, 380 (Specify)	3760
517	Special PPR–2–600 (Specify)	3955
518	**Standard double shaft extension–Add to RD-11 or RD-12**	195
528	**M628-1D**–Dual isolated outputs (one conduit box) Standard PPR–240, 320, 360	2560
529	Special PPR–30, 60, 100, 160	3630
530	**M628-1Q**–Four isolated outputs (two conduit boxes) Standard PPR–240, 320, 360	3080
	Special PPR–30, 60, 100, 160	4150
519	**RD-14**–Sandwich Type–Mounted between motor bracket and analog tachometer. (Add BC-42, BC–46 or RE-210 from above) Single Output–Standard PPR–60, 120, 240, 300, 360, 380	2045
520	Single Output–Special PPR–1–600	2185
521	Dual Output–Standard PPR–60, 120, 240, 300, 360, 380	2720
522	Dual Output–Special PPR–1–600	2860
	MAGNETIC PULSE GENERATORS–SCOOP MOUNTED ON D-C MOTOR (Includes scoop and all mounting hardware)	
514	**RD-40**–Listed for Class I, Group D, P/N 601429 Standard PPR–60, 120, 240 (Specify)	3250
514A	**RD-40**–Listed for Class I, Group D; Class II, Group E, F and G, P/N 601429-2 Standard PPR–60, 120, 240 (Specify)	3975
	ZERO SPEED PULSE GENERATORS–FLANGE MOUNTED ON D-C MOTOR (Includes provision for mounting and all mounting hardware)	
512	**RD-61**–NEMA 56C Frame–Single Directional Operation Standard PPR–1, 60, 120, 180, 240, 250, 300, 360, 500, 600 (Specify)	3030
528	Special PPR–2–599 (Specify)	3415
513A	**RD-62**–NEMA 56C Frame–Bidirectional Operation Standard PPR–1, 60, 120, 180, 240, 250, 300, 360, 500, 600 (Specify)–Single output	3345
513B	Standard PPR–1, 60, 120, 180, 240, 250, 300, 360, 500, 600 (Specify)–Dual Output	3810
524	Special PPR–2–599 (Specify) **Add to Mod. 513A or 513B**	385
525	Standard double shaft extension–**Add to RD-61 or RD-62**	185
532	**M738**–NEMA Bidirectional (Quadrature) complimentary outputs, 240 ppr, single shaft extension, with connectors **M738-1R** Single Output	3880
533	**M738-1D** Dual isolated outputs	4680

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION	List Price
	TACHOMETERS (cont'd)	
	COMBINATION DIGITAL ANALOG TACHOMETER–FLANGE MOUNTED ON D–C MOTOR (Includes provision for mounting and all mounting hardware)	
515	**RD-51**–Consists of RE-210 and Magnetic Pulse Generator assembled as single unit. Standard PPR for Magnetic Pulse Generator RD-11–100 or 200 volts/1000 rpm for RE-210 (Specify)	$4770
526	Special PPR for Magnetic Pulse Generator RD-11–100 or 200 volts/1000 rpm for RE-210 (Specify)	5641
358	**PIGGYBACK MOUNTED ON MOTOR FRONT END**–Includes sheaves, timing belt with guard and mounting bracket. **Add to price of flange mounted tachometer RE-210, BC-46, BC-42, 5PY595 or digital tachometer.** **NOTE:** Add Mod. 270 for usable shaft extension beyond sheave on motor shaft. Maximum shaft extension beyond the sheave is 1-inch diameter for 5PY tachometer. 5PY tachometer cannot be piggyback mounted on Frames B400ATZ and larger.	1020
359	**Scoop Mounted on Motor Front End**–Includes scoop, coupling and coupling guard. **Add to price of flange mounted tachometer RE-210, BC-46, BC-42, 5PY59J, or digital tachometer.**	500
527	**MOUNTING OF CUSTOMER SUPPLIED 56 C-FACE TACHOMETER**–Includes provision for mounting	885
	PROVISION FOR MOUNTING ONLY–APPLICABLE TO DPG, SP, TENV, SEP. VENT, TEDC and TEAO PIGGYBACK ENCLOSURES.	
312	**Machined motor bracket and counter bore of commutator end shaft only.** **NOTE:** Contact Reliance Electric for tachometer mounting kits containing the hardware required to field mount tachometers on motors having this modification.	158
315	**Machined motor bracket and stub shaft in commutator end shaft with protective cover over stub shaft.**	450
355	**Machined motor bracket, adapter, stub and coupling.** For RE-210, BC-46 and BC-42 and only other tachometer with 56 C-Face.	833
356	For 5PY59J.	597
	PROVISION FOR MOUNTING ONLY–APPLICABLE TO TEFC ENCLOSURES.	
313	**Counter bore of commutator end shaft**–Contact Reliance Electric for kits containing the hardware required to field mount tachometers on motors having this modification.	75
314	**Adapter, stub shaft and coupling**–for future mounting of 5PY, RE-045 (bearing type), BC-42, BC-46 and any digital tachometer with 56C face.	833
	TECHNICAL DATA	
380	**Dimension Sheets, Connection Diagrams and Instruction Manuals**–Reliance Electric will provide up to five sets of dimension sheets and connection diagrams, or one Sepia reproducible per order or sub-order, at no additional charge. (An additional connection diagram is shipped with each motor). For additional certified dimension sheet, connection diagram and instruction manual, **add $14 per set.** For Sepia reproducible of dimension sheet and connection diagram, **add $57 List per set.** **NOTE:** Wiring diagrams showing the internal winding connections of the motor are not normally required by the customer and are not supplied as a part of the order. Motor repair or service work requiring a wiring diagram should be done by a Reliance Electric authorized service center. For film reproducible of dimension sheet and connection diagram, **add $135 List per set.**	
381	**Speed Curve**–Most applications require shunt field current at base speed and maximum field-weakened speed only. This data, along with field resistance and inductance, is supplied at no charge when requested at time of order entry. This modification provides up to five copies of a curve showing variation of speed with shunt field current for both no load and full load conditions. Data on field resistance and inductance is included. All curves and data are based on calculated data. Speed curves are supplied only on motors having a speed range in excess of the nominal speed by field control as indicated on the basic price and frame size selection pages. For speed curve, **add $130 List per rating.**	
382	**Performance Curves**–This modification provides a calculated performance curve showing motor horsepower speed, torque and efficiency as a function of armature current up to 150% of armature current. Standard motor is rated for 150% current for one minute. For performance curve, **add $360 List per rating.**	
	TESTS	
390	**Routine Test–Certified copy of Test Report**–This modification provides up to five (5) copies of the certified test report containing the data on the standard routine test per IEEE Standard 113 that is given each motor. This test determines that the motor is free from electrical or mechanical defects and provides assurance that it meets design specifications. The routine test consists of: **1.** Neutral check **2.** Shunt field winding resistance check **3.** Commutation check **4.** High potential check **5.** Motor operation under following conditions with speed, voltage and current checked. **a.** No load at rated voltage at base speed and maximum field weakened speed. **b.** Full load at rated voltage at base speed and maximum field weakened speed. For five copies of certified routine test report, **add $225 List per machine.** For each additional copy, **add $12 List each.** **NOTE:** All motors are subjected to a routine test; however test data is not recorded and submitted to customer unless this modification is specified.	
391	**Witnessed Routine Test**–The routine test described in MOD. 390 to be witnessed by customer. Customer will be notified approximately 2 days before motor is ready for test. Includes six certified copies of test report. Witnessed Routine Test–Frames B180ATZ thru B280ATZ **add $740 List per motor** Witnessed Routine Test–Frames B320ATZ thru B400ATZ **add $1450 List per motor** Witnessed Routine Test–Frames B500ATZ thru B840ATZ **add $3710 List per motor** Witnessed Routine Test–Frames B960AT and larger–Refer to Reliance Electric	
392	**Performance Test**–Provides complete motor performance test and heat run on dynamometer with motor horsepower, speed, torque and efficiency recorded as a function of armature current up to 150% of rated armature current. Includes six certified copies of test report. Performance Test–Frames B180ATZ thru B280ATZ **add $2960 List per motor** Performance Test–Frames B320ATZ thru B400ATZ **add $6150 List per motor** Performance Test–Frames B500ATZ thru B840ATZ **add $11,140 List per motor** Performance Test–Frames B960AT and larger–Refer to Reliance Electric	
393	**Witnessed Performance Test**–Similar to MOD 392 except witnessed by customer. Customer will be notified approximately 2 days before motor is ready for test. Includes six certified copies of test report. Witnessed Performance Test–Frames B180ATZ thru B280ATZ **add $4440 List per motor** Witnessed Performance Test–Frames B320ATZ thru B400ATZ **add $9230 List per motor** Witnessed Performance Test–Frames B500ATZ thru B840ATZ **add $16,700 List per motor** Witnessed Performance Test–Frames B960AT and larger–Refer to Reliance Electric	

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION
395	**Noise Test–Motor Under Load.** This modification covers a broadband noise test conducted at a Reliance facility. Measurements will be made at four points with three of the points located 3 ft. from each side and from the front of the motor on a horizontal plane "D" inches above the base where "D" is equal to the NEMA shaft center height. The 4th point will be 3 ft. from the top of the motor. Motor will be operating at full load and base speed. Power supply to motor will be as specified for the order. Modification covers testing and five copies of certified test reports. Ratings are limited to 450 ft. lbs. torque (150 hp at 1750 rpm). **NOTE:** This modification covers testing of the motor only and does not provide a guarantee that the motor will meet a specified noise level since motor noise is dependent on the acoustical characteristics of the installation. The noise level at the customer's installation may be different from the value measured by the test. Noise test under load for Frames B180ATZ thru B360ATZ, **add $3128 List per motor.** Noise test under load for Frames B400ATZ thru B500ATZ, **add $4680 List per motor.**
396	**Noise Test–No load on motor.** This modification covers a broadband noise test conducted at a Reliance facility. Measurements will be at five points with two of the points 3 ft. from each side, one point 3 ft. from the back end and one point 3 ft. from the front end with all points on a horizontal plane "D" inches above the base where "D" is equal to the NEMA shaft center height. The 5th point will be 3 ft. from the top of the motor. Motor will be operating at base speed from a power supply as specified on the order. Modification covers testing and five copies of certified test reports. **NOTE:** This modification covers testing of the motor only and does not provide a guarantee that the motor will meet a specified noise level since motor is dependent on the acoustical characteristics of the installation. The noise level at the customer's installation may be different than the value measured by this test. Noise test no load for Frames B180ATZ thru B360ATZ, **add $1373 List per motor.** Noise test no load for Frames B400ATZ thru B500ATZ, **add $2295 List per motor.**
400	**Tropical Protection**–Standard SUPER RPM motors utilize an advanced insulation system that provides excellent protection against fungus and high humidity as found in tropical climates. The standard motor is suitable for operation in tropical climates without additional treatment. (Refer to General Information section for features of the insulation system). For additional protection, especially during shipment and prolonged storage, this modification provides a fungicidal air dry varnish treatment per MIL-T-152B (Type I treatment) applied over all motor windings. For tropical protection, **add 5% to basic motor price.** **IMPORTANT: Motors applied in highly corrosive, moist and dirt-laden environments should have an enclosure with XT features per Mod. 191 to limit the entrance of containments into the motor.**

MOTOR OVERTEMPERATURE PROTECTION

Overtemperature protection of the various windings in a direct-current motor, especially the armature winding which rotates, is considerably complex. The wide range of load and speed (ventilation) in the typical direct-current motor application adds to the difficulty. Current-sensing devices located remotely from the motor (frequently in control panels) cannot match the thermal characteristics of direct-current motors over a wide speed range because of these variable motor cooling conditions. Reliance Electric offers several modifications to protect the D-C motor against overtemperature operation as follows: (Refer to each modification for complete description and limitations)

Mod. No.	Modification	Application
410	High Limit Thermostat on Intercoil	Minimum protection recommended. See Mod. for limitations.
411	Warning Thermostat on Intercoil	Useful as a warning signal that motor is approaching maximum temperature. Time between actuation of "WARNING" thermostat and "HIGH LIMIT" thermostat depends on operating conditions and cannot be predetermined.
132/133	Air Pressure Switch	Recommended for all forced-vent, separate-vent, and totally enclosed dual cooled motors to give immediate indication of reduction in air flow. Refer to page 43 for pricing.
414/415/416	Thermistors on Intercoil	Provides protection similar to thermostat but generally gives better indication of winding temperature since, being a smaller device, it can make better thermal contact with the windings. Refer to MOD. 410 for limitations on protection under various load/speed conditions. Requires separate control module.
417/418/419	Thermistors on Main Field Winding	Gives indication of excessive field heating that may be caused by high field supply voltage, loss of cooling air or operation of DPG and TEFC motors at low speed, high armature current conditions. Requires separate control module.
420	Resistance Temperature Detector on Intercoil	When used with separate instrument provides analog indication of intercoil temperature. Recommended on large motors in conjunction with thermostat or thermistors.

410 **High Limit Thermostat on Intercoil**–with leads brought into the standard conduit box. **add $135 List per motor.**

The thermostat normally closed contact is suitable for use in control circuits rated 120-600 volts a-c, 345 volt-amps except the thermostat in the DB180ATZ frame and all motors with 180 volt armatures is rated for 240 volts a-c maximum with 1.5 amps holding and 15 amps in-rush capacity.

Protects Against
- High load, extremely low speed operation of DPG and TEFC motors.
- High load operation of DPFV and TEDC motors at all speeds except very low speeds.
- High load operation of TENV motors.
- Operation in extremely high ambient temperatures.
- After a time delay, gives indication of complete loss of cooling air.

Advantages
- Low cost
- Operates directly into control circuit.

Disadvantages
- Size of unit makes placement on windings critical to obtain good thermal contact.
- Does not provide dependable protection on DPFV and TEDC motors with overloads at low motor speeds. At low speeds the heat dissipating ability of the armature is reduced due to decrease in armature velocity while the heat dissipating ability of the stationary intercoil, where the thermostat is located, remains constant.
- Since intercoil thermal time constant is typically five times longer than the armature thermal time constant, extremely high short-term armature overloads may damage the armature before the thermostat trips or permit the motor to be operated at higher than normal rated temperature rise resulting in less than normal motor insulation life. Other load limiting devices in the control–thermal overload relays or instantaneous over-current relays–must be used to protect the motor.

DISCOUNT–RM072, RM073, RM074, RM075

MODIFICATIONS

Mod. No.	MODIFICATION	
411	**WARNING THERMOSTAT ON INTERCOIL**	For motor warning thermostat with N/C contacts, **add $215 list per motor.** (Refer to MOD. 410 for contact rating)

(MOD. 410 must also be priced when pricing this MOD).

Provides low temperature thermostat on the intercoil with leads brought into the standard conduit box. This thermostat, selected to trip approximately 15° C below the high limit thermostat, may be used as a warning signal to indicate that the intercoil temperature is approaching a high temperature. The same advantages and limitations as outlined in MOD. 410 apply to this thermostat. Under certain operating conditions extremely low speed operation of forced ventilated motor or extremely high short-term overloads–the motor may be damaged before the high limit thermostat trips. If the condition of the overload is determined to be due to these operating conditions, the tripping of the warning thermostat should be used to shut down the drive, thus preventing possible damage to the motor by continued operation. In actual operation, the exact cause of the low temperature thermostat tripping may be difficult to determine although tripping of this warning thermostat can be used as a signal to check drive operation.

NOTE: The usefulness of a warning thermostat is limited since the time between activation of the warning thermostat is a function of load, ambient temperature, and other factors and cannot be predetermined.

THERMISTORS

(Quantity 2) on intercoil with four leads brought into standard conduit box.

Offers the same functional protection as a thermostat but with the advantage of a smaller solid state sensing device to obtain better thermal contact with windings. The PTC thermistor bonded to the intercoil provides an approximate 20 : 1 increase in resistance when it reaches its trip temperature. This change in resistance is detected by an electronic module external to the motor having two Triac outputs–one normally energized and one normally off–each capable of switching 5 amps at 120 or 240 volts 50/60 Hz.

Protection limitations for thermistors are similar to thermostat for various operating conditions. Refer to MOD. 410.

412	**HIGH LIMIT THERMISTORS**	(Quantity 2) Mounted on intercoil, **$340 list.**
413	**WARNING THERMISTORS**	(Quantity 2) Mounted on intercoil, **$340 list.**
414	**CONTROL MODULE FOR USE WITH THERMISTORS**	Supplied in NEMA 12 enclosure for separate mounting. **Add for unmounted control module, $600 list.**

THERMISTORS

- (Quantity 2) on field winding
- Additional protection can be obtained by monitoring main field winding temperature with thermistors. Possible causes of excessive field temperatures are as follows:
  1. Loss of cooling air on motors designed for forced ventilation as standard.
  2. High field voltage over 110% rated.
  3. Operation of a DPG self-ventilated motors at low speeds. Although the fields of DPG self-ventilated motors are capable of continuous excitation at rated field voltage with no armature power applied, they may reach an excessive temperature when the armature is rotating at low speed at high current due to increased heat transfer from the armature to the field.
- The PTC thermistor bonded to the field winding provides an approximate 20 : 1 increase in resistance when it reaches its "Trip" temperature. This change in resistance is detected by an electronic module external to the motor having two Triac outputs–one normally energized and one normally off–each capable of switching 5 amps at 120 or 240 volts, 50/60 Hz. These outputs can be used as a warning signal or in the drive control circuit to shut down the drive and remove field power in an orderly manner.

415	**HIGH LIMIT THERMISTORS**	(Quantity 2) Mounted on main field winding, **$340 list.**
416	**WARNING THERMISTORS**	(Quantity 2) Mounted on main field winding, **$340 list.**
417	**CONTROL MODULE FOR USE WITH THERMISTORS**	Supplied in NEMA 12 enclosure for separate mounting. **Add for unmounted control module, $600 list.**
418	**RESISTANCE TEMPERATURE DETECTOR (RTD)**–Mounted on intercoil.	For 100 ohm Resistance Temperature Detector mounted on intercoil, **add $925 list.**

This modification provides a 100 ohm RTD on the intercoil winding to permit monitoring the intercoil winding temperature with a customer supplied instrument giving an analog indication of intercoil thermal rise. This information is useful in checking intercoil temperature; however, the same limitations on relating this temperature to actual armature temperature apply with an RTD as with a thermostat (See MOD. 410).

NOTE: Reliance Electric recommends that a thermostat or thermistor be used in addition to this modification to give an output signal at a definite predetermined temperature.

IMPORTANT: This modification cannot be added to explosion-proof motors.

		MOTOR BASIC LIST PRICE											
		Up to $1250	$1251 to $1796	$1797 to $2789	$2790 to $4874	$4875 to $6609	$6610 to $11961	$11962 to $21068	$21069 to $30875	$30876 to $49314	$49315 to $78852	$78853 to $126144	$126145 to $201825
	MODIFICATION	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price	List Price
420	**VOLTAGE, SPECIAL ARMATURE**–add to 240V price	$230	$230	$230	$386	$575	$930	$1655	$2600	—	—	—	—

Provides either 120 or 125 V armature on ratings 1 thru 40 Hp. Frame may differ from standard. Armature choke may be required and is not included in price for motor operated on power Code E or 3/3-240. Refer to Mod. 425. (Refer to Mod. 225 for special field voltages).

425	**VOLTAGE, SPECIAL POWER SUPPLY–S3R–** Provides motor suitable for operation on power	**Add 10% to Basic Motor Price.**

supply Code E or Reliance S3R (3/3-480-60-0) with 240 volts armature for motors rated ½ through 75 hp. Armature choke will not be required if field weakened speed range does not exceed 2.5 to 1 and maximum speed does not exceed 2500 rpm. Adder for field weakened speed range per Mod. 305 must be made when applicable.

DISCOUNT–RM072, RM073, RM074, RM075

APPLICATION DATA

INDEX

	Pg.C-
SAFETY	
Enclosures	57-58
Lifting Precautions	58
Hazardous Locations	58
Protection From Electrical Shock	58
Maximum Safe Speed	58-59
Protection From Rotating Shafts, Couplings And Sheaves	59
Motor Frame Temperatures	59
LOCATION	
Air Supply	59
Ambient	59
AIR SUPPLY	59
AMBIENT	59
AXIAL THRUST CAPACITY	70
BASES AND RAILS	66
BEARING DATA	66
BELTED APPLICATIONS	64-65
BLOWER MOTOR DATA	67
CURRENT RATINGS — Approximate Full Load	68
ELECTRICAL SHOCK — Protection From:	58
ENCLOSURES	57
ENGINEERING ESTIMATING DATA	
Air Supply Requirements	59
Axial Thrust Capacity	70
Bases And Rails	66
Bearing Data	66
Blower Motor Data	67
Current Ratings — Approximate Full Load	68
Filter Types And Sizes	68
Inertia	68
Noise	69
Radial Load Capacity	70
Shaft Sizes	66
Weights	68
FIELD HEATING	60-61
FILTER TYPES AND SIZES	68
FORMULAS	72
FRAME TEMPERATURES	59
HAZARDOUS LOCATIONS	58
INERTIA	68
INSULATION	60
LIFTING — Precautions	58
LOCATION	59
MOTOR PROTECTION	61
MOUNTING	60
MOUNTING SYMBOLS	71
NOISE	69
OVERLOADS	
Starting	61
Momentary	61
POWER SUPPLY	
Codes	64
50Hz Operation	64
RADIAL LOAD CAPACITY	70
RENEWAL PARTS	72
ROTATING SHAFTS, COUPLINGS AND SHEAVES — PROTECTION	59
SAFETY	57-59
SAFE SPEED — MAXIMUM	58-59
SHAFT SIZES	66
SPEED RANGE	
By Armature Voltage Control	62-63
By Field Control	64
STABILIZED SHUNT D-C MOTORS	61
WEIGHTS	68

APPLICATION DATA

SAFETY

D-C motors have characteristics which can cause serious or fatal injury unless they are selected, installed, maintained and operated by qualified personnel familiar with special requirements of D-C machines. Reliance Electric D-C motors are designed and built in accordance with ***Safety Standard for Construction and Guide for Selection, Installation and Use of Electric Motors and Generators,*** National Electric Manufacturers Association (NEMA) publication MG 2. Reliance Electric recommends that this publication be referred to whenever you select or install any motor. Copies may be obtained from NEMA, 2101 L Street, N. W., Washington, D. C., 20037. In addition, all motors must be installed in accordance with the National Electric Code and applicable local codes.

Primary consideration in selecting and applying D-C motors must be given to protection of personnel from mechanical and electrical hazards. This catalog presents some of the precautions to observe in specifying and using D-C motors. Additional considerations are given in the instruction manual for a specific motor rating which must be observed by the personnel installing, operating and maintaining the equipment.

Enclosures

The selection of the proper enclosure is vital to the successful safe operation of D-C motors and generators. The wrong enclosure can pose hazards to operating personnel and endanger other equipment. In addition, machine performance and life can be materially reduced by using an enclosure inappropriate for the application. The customer must recognize the specific environmental conditions and specify the correct enclosure. Reliance Electric can provide application assistance but must depend on the customer to provide accurate information on the operating conditions.

The information in this section, the ***General Information Section*** and the ***Modification Section*** should be studied thoroughly before specifying an enclosure.

As indicated in the ***General Information Section,*** the basic D-C motor may be Dripproof Guarded, Dripproof Guarded Forced Ventilated or Dripproof Guarded Separately Ventilated depending on horsepower rating. In addition, totally enclosed motors can be supplied when required by the application. The minimum enclosure for Reliance Electric SUPER RPM D-C motors is Dripproof Guarded (DPG) as defined by NEMA MG1-1.25E to prevent accidental exposure to live metal or rotating parts. The dripproof construction permits successful operation when drops of liquid or solid particles strike or enter the enclosure at any angle from 0 to 15 degrees downward from the vertical. Certain applications may require a Splash-Proof Guarded (SPG) machine to permit successful operation when drops of liquid or solid particles strike or enter the enclosure at any angle not greater than 100 degrees downward from the vertical.

Both Dripproof Guarded and Splash-Proof Guarded machines may have a blower driven by a constant speed a-c motor mounted on the end bracket to provide cooling independent of D-C motor speed. See page 62 ***(Speed Range by Armature Voltage Control).*** A filter may be added to the blower when filterable contaminates are present in amounts not sufficient to rapidly clog the filter. A filter is not recommended in extremely dusty, dirty locations.

For dusty, dirty environments, a totally enclosed machine is required to prevent the free exchange of air between the inside and outside of the enclosure but not sufficiently enclosed to be termed air-tight. The following totally enclosed machines are available and may be priced from either the ***Pricing Section*** or the ***Modification Section.***

Totally-Enclosed Non-Ventilated – Not equipped for cooling by means external to the enclosing parts. Generally limited to low horsepower ratings or short-time rated machines.

Totally-Enclosed Fan-Cooled – Exterior surface cooled by external fan on motor shaft. Aavailable in ratings thru 200 hp at 1750 rpm. Motor cooling is dependent on motor speed.

Totally-Enclosed Air-Over Inline – External fan driven by constant speed a-c motor flange mounted to motor fan shroud. Provides cooling independent of motor speeds. Brakes and tachometers cannot be mounted on motor end bracket except for specific small tachometers which can be nested between motor bracket and fan. Available thru B400ATZ frames.

Totally-Enclosed Piggyback – Has top mounted a-c motor driven blower with shroud to direct ventilating air over motor frame. Available thru B500ATZ frame.

Totally-Enclosed Dual-Cooled with Air-to-Air Heat Exhanger (TEDC-A/A) – Cooled by circulating motor internal air through the heat exchanger by an a-c motor driven blower. External air circulated through the heat exchanger by another a-c motor driven blower removes heat from the circulating internal air. No free exchange of air occurs between the inside and outside of the motor.

Totally-Enclosed Dual-Cooled with Air-to-Water Heat Exchanger (TEDC-A/W) – Similar to TEDC A/A except external circulating air flow is replaced by customer supplied water to remove heat from heat exchanger. Available in ratings thru 3000 hp.

Totally-Enclosed Pipe-Ventilated (TEPV) or Totally-Enclosed-Separately Ventilated (TESV). Motor is cooled by customer supplied air which is piped into the machine and ducted out of the machine by customer supplied ducts.

Explosion-Proof – An Explosion-Proof machine in a totally-enclosed machine whose enclosure is designed and constructed to withstand an explosion of a specified gas or vapor which may occur within it and to prevent the ignition of the specified gas or vapor surrounding the machine by sparks, flashes or explosions of the specified gas or vapor which may occur within the machine casing. Refer to page 58 ***(Hazardous Locations)*** and ***(Pricing Section)*** for application information.

Dust-Ignition-Proof Machine – A dust-ignition-proof machine is a totally-enclosed machine whose enclosure is designed and constructed in a manner which will exclude ignitable amounts of dust or amounts which might affect performance or rating, and which will not permit arcs, sparks, or heat otherwise generated or liberated inside of the enclosure to cause ignition of exterior accumulations or atmospheric suspensions of a specific dust on or in the vicinity of the enclosure. Refer to page 58 ***(Hazardous Locations)*** and ***Pricing Section*** for application information.

(Continued)

APPLICATION DATA

SAFETY (Continued)

Enclosures (Continued)

In addition to the foregoing basic enclosures, Reliance Electric offers the following modifications to Totally-Enclosed machines for use in specific locations. Refer to ***Modification Section*** for complete description.

Dust-Proof Taconite Features – Provides bearing protection against fine abrasive dust such as Taconite.

XT Features – Provides protection against corrosive, moist and dirt laden environments as encountered in paper, chemical and similar industries.

Washdown Duty – Designed for frequent washdown by high pressure water or steam. Should not be used in locations containing contaniments highly corrosive to aluminum.

Outdoor Duty – Suitable for operation outdoors subject to direct weather conditions, and for applications where water will be applied in the form of a stream from a hose.

Lifting Precautions

The lifting of motors and generators is a potentially hazardous operation requiring care and knowledge of proper lifting technique to assure safety of personnel and to prevent damage to the equipment. Specific lifting instructions given in the instruction manual and on a plate attached to the motor frame must be followed.

An experienced rigger should be employed to handle all large motors and any unusual mounting conditions such as side-wall and ceiling mounting of horizontal motors and installation of vertical motors shipped in a horizontal position.

Hazardous Locations

The application of motors and generators and other electrical equipment in hazardous locations is restricted by the National Electric Code, Article 500. Customers must observe these regulations and consult with local code inspection and enforcement agencies to insure compliance. Motors listed by Underwriters Laboratories for use in specific hazardous locations are listed for use in the specified location only.

Reliance Electric D-C motors are listed by Underwriters Laboratories for use in specific hazardous locations according to the following classifications:

Class I – A hazardous location in which a flammable gas or vapor is present in the atmosphere. An explosion-proof motor is suitable for this location.

Class II – A hazardous location in which a flammable dust is present in the atmosphere. A dust-ignition-proof motor is suitable for this location.

The specific gas or dust present in the hazardous location is identified by the Group listing for each Class. Certain Reliance Electric D-C motors are listed for use in Class I Groups C and D and Class II Groups E, F and G locations depending on the horsepower rating, frame size and enclosure as indicated on the basic price pages for explosion-proof and dust-ignition-proof motors. The user customer is responsible for insuring that the proper UL listed motor is used in a specific hazardous location. The user customer is also responsible to insure compliance with the National Electric code and applicable local codes if a permissible alternative to a UL listed motor is used in a hazardous location.

Protection from Electrical Shock

To provide maximum protection from electrical shock inherently possible with the high voltage, high current power requirements of D-C motors, the following precautions and procedures must be followed:

1. **Enclosure** – All enclosures must be at least dripproof guarded to help protect personnel from accidental contact with live electrical parts. All covers and guards must be in place.
2. **National Electric Code** – All motors and generators must be installed and protected in accordance with the National Electric Code and applicable local codes.
3. **Grounding** – The frames of motors and generators should be grounded to limit their potential to ground in the event of accidental connection or contact between live electrical parts and exterior motor surfaces. SUPER RPM machines have a tapped hole on the foot frame brace or opposite drive end bracket for the grounding connection. Good electrical contact must be maintained to this grounding surface.
4. **Wiring Connections** – All connections to the machine must be made by qualified personnel in accordance with the connection diagram for the specific machine.
5. **Overtemperature and Overcurrent Protection** – Equipment must have proper overtemperature and overcurrent protection devices with manual reset. Automatic reset devices may endanger operating and maintenance personnel.
6. **Maintenance** – Motors and generators must be properly maintained. Maintenance personnel must be qualified to work on D-C equipment. They must remember that internal parts may be at line potential even when the machine is not rotating. Before performing any maintenance which could result in contacting any internal part, they must disconnect all power from the motor:

- Motors using rectified power units – disconnect all A-C line connections, including accessories such as space heaters.
- Motors using rotating power units – disconnect all D-C line and field connections and accessory A-C line connections.

Maximum Safe Speed

D-C motors are inherently capable of reaching speeds hazardous to personnel and equipment if improperly connected or misapplied. Operation of a shunt wound or compound wound motor without the shunt field energized at the proper current may cause the motor to reach a dangerous speed. Both the motor instruction manual and the control instruction manual must be followed when the motor is being connected and operated and the work must be performed by qualified personnel.

Protective devices such as overspeed switches, field loss relay or tachometers must be used in the control circuit to limit motor speeds to the values given in Table I unless the motor speed is limited by the application.

The speeds given in Table I are the maximum mechanically safe operating speeds for frames with standard construction. **These speeds must not be exceeded under any condition.** Motor control must hold the maximum speed under any load condition including no-load within the maximum safe speed. Drive systems whose design characteristics inherently prevent

(Continued)

SAFETY (Continued)

Maximum Safe Speed (Continued)

the D-C motor from exceeding the Motor Maximum Safe Operating Speed must prevent the motor from exceeding the Maximum Safe Speed if a single component failure should occur.

WARNING The machinery builder is responsible for insuring that driven machinery and all drivetrain mechanisms not supplied by Reliance Electric and process line material are capable of safe operation at the maximum speeds, as shown in Table I. Failure to do so can result in destruction of mechanism or material and flying fragments, endangering operating personnel.

Maximum Safe Speed

TABLE I. MAXIMUM SAFE SPEED

Frame Diameter	Maximum Safe Speed rpm	Frame Diameter	Maximum Safe Speed rpm
DB180ATZ	4500	B500ATZ	2650
B180ATZ	5000	B580ATZ	2475
B210ATZ	4500	B680ATZ	2100
B250ATZ	4500	B840AT	1720
B280ATZ	4500	B960AT	1600
B320ATZ	3600	B1200AT	1600
B360ATZ	3400	B1400AT	1400
B400ATZ	2760	B1600AT	1200

With special construction maximum safe speed may differ from the above values. In all cases, the maximum safe speed is indicated on the motor nameplate.

NOTE: *Normal operating speeds must be limited to those listed in Pricing Section in order to meet nameplate rating and assure validity of warranty.*

Protection from Rotating Shafts, Couplings and Sheaves

All shafts, couplings, sheaves and other rotating elements connected to the motor shaft must be covered with proper protective covers to guard against accidental contact when the motor is operating. Special attention should be given to second shaft extensions which have been specified for future use but not used initially.

The precautions given on pages 64-65 (***Belted Applications***) must be observed to insure proper specification of pulleys, sheaves, sprockets and gears on motor shafts.

Motor Frame Temperature

D-C dripproof guarded motors rated Class F temperature rise are allowed an insulation temperature rise of 90 °C measured by thermometer (130 °C measured by resistance) above the 40 °C ambient or a total temperature of 130 °C. Totally enclosed motors may have a 95 °C rise or a total insulation temperature of 135 °C by thermometer. With these allowable NEMA temperature rises, the motor frame may reach temperatures which can cause discomfort or injury to personnel accidentally coming into contact with these hot surfaces. In general, TENV enclosures will have higher surface temperatures than DPG, TEFC or DPFV enclosures. When installing, the customer must provide protection against accidental contact with the hot frame surface.

LOCATION

Air Supply

Cooling air through a self-ventilated or forced-ventilated motor must be clean and have relative humidity between 30 and 100% with no free water in the air. Use of damp, cool outside air with high humidity and free water may cause the motor to flash over. Use of excessively dry air may cause excessive brush and commutator wear. Cooling air temperature must not exceed the maximum ambient temperature indicated on the motor nameplate (Standard 40 °C). Cooling air temperature must not be lower than 0 °C to provide base speed and regulation within NEMA limits. Use of outside air below 0 °C may cause excessive brush and commutator wear due to the low humidity. Cooling air absolute humidity must be at least 2 grains per cu. ft.

NOTE: *Motors located in damp, moist environment must have space heaters or fields energized at 50% voltage to protect against condensation when motor is not operating.*

Separately ventilated motors must have the following volume of air to adequately cool the motor unless the motor nameplate specifies a different value.

Frame	Base speed, rpm	Air Volume, Cfm.	Static Pressure Inches of Water
DB180ATZ and B180ATZ	2500 1750 and lower	152 105	2.0 .95
B210ATZ	2500 1750 and lower	230 160	2.04 1.00
B250ATZ	2500 1750 and lower	400 280	2.35 1.15
B280ATZ	2500 1750 and lower	435 305	2.5 1.95
B320ATZ	All	450	2.45
B360ATZ	All	780	2.0
B400ATZ	All	1000	2.0
B500ATZ	All	1200	1.75
B587ATZ ① and B588ATZ	All	2000	2.25
B589ATZ	All	2500	3.3
B680ATZ	All	2200	1.75
B840AT	All	6000	5.0
B960AT	All	6500	4.0
B1200AT	All	8000	3.75
B1400AT	All	10000	4.50
B1600AT	All	12000	2.50

① 600 hp at 1750 requires 2500 cfm at 3.3 inches water.

Ambient

As indicated in the ***General Information Section,*** Standard SUPER RPM D-C motors are designed for continuous operation in air at maximum ambient temperatures of 40 °C (104 °F) and at altitudes from sea level to 3300 feet. Operation under more extreme conditions may be permissible by derating the motor ouptut. All elements of the motor, that is, armature, shunt field, intercoil, brushes, commutator, and leads must be evaluated for maximum allowable operating conditions. When ordering, the customer should specify any unusual ambient conditions so that a motor can be supplied to give full rated continuous output under the specific ambient conditions.

APPLICATION DATA

MOUNTING

Motors must be mounted on a rigid, solid base or foundation. (Poor base construction may cause resonances in the motor/base assembly which can result in bearing failure and other motor damage.) All hold down bolts must be the correct grade for the type of mounting and must be torqued to their recommended value. Recommended bolt torques for SAE Grade 1 foot bolts are given in the following table.

Frame	Hole Diameter H Inch	Bolt Size and Thread	Recomended Torque for SAE Grade I Dry Components-Not Lubricated Foot-Pounds
B180ATZ	.44	3/8-16	16
B210ATZ	.44	3/8-16	16
B250ATZ	.56	1/2-13	39
B280ATZ	.56	1/2-13	39
B210ATZ	.69	5/8-11	77
B360ATZ	.81	3/4-10	135
B400ATZ	1.06	7/8-9	215
B500ATZ	1.19	1-8	320
B580ATZ	1.44	1-1/4-7	640
B680ATZ	1.44	1-1/4-7	640
B840AT	1.69	1-1/2-6	1010
B960AT	1.94	1.75-5	1770
B1200AT	2.19	2.0-4.5	2660
B1600AT	2.19	2.0-4.5	2660

Standard SUPER RPM motors Frames DB180ATZ thru B680ATZ will operate successfully mounted on the floor, wall or ceiling, and with the shaft at any angle from horizontal to vertical. Special mountings, duty or thrust demands may however require a different bearing system. Drive-end bracket and/or outer caps can be rotated either 90° or 180° to conveniently locate grease fittings, or air outlet openings. Vertical mount drip covers are required to provide protection to vertically mounted Dripproof motors. Stock motors and other motors designed for horizontal mounting can be adapted for vertical mounting by ordering vertical mount drip covers from Reliance Electric. Self-ventilated frames B180ATZ—B400ATZ cannot be mounted vertical shaft up and retain the dripproof feature due to louvers on the drive end bracket.

Motor slide bases or rails, when used on belted drives must be securely anchored to the foundation with the proper bolts. The motor shaft and the load shaft must be parallel and the sheaves aligned. Refer to page 65 ***(Belted Duty Applications)*** for minimum sheave diameters.

Coupled drives must have flexible couplings between the motor shaft and the load shaft. Motor shaft and load shaft must be aligned to values recommended for the specific coupling before coupling is connected.

INSULATION

The standard SUPER RPM insulating system is an advanced Class F rated system with superior electrical, thermal and mechanical characteristics for long life. The actual insulation life will be determined by operating conditions—temperature, contaminates in the atmosphere and mechanical forces including shock and vibration.

The accepted estimate for effect of operating temperature on insulation life is that insulation life is reduced by one half for each 10 °C rise in operating temperature when operated within its maximum allowable temperature; therefore, a motor operating at a lower temperature will have approximately twice the insulation life of a motor operating 10 °C higher.

Proper motor enclosure and a supply of clean cooling air will help to extend insulation life for motors operating in areas with contaminates degrading to the insulation.

Careful attention to mounting and base design will reduce the possibility of insulation failure due to mechanical forces. Special insulation protection may be required for machines subjected to high cyclic overloads.

FIELD HEATING

In some applications of direct-current motors, the user may want to apply voltage to the shunt field winding during periods when the motor is stationary and the armature circuit is not energized. The percent of rated shunt field voltage and the duration of standstill excitation which a direct-current motor is capable of withstanding without excessive temperature will vary depending upon the size, enclosure, rating and type of direct-current motor.

Some direct-current motors are designed to be capable of continuous excitation of the shunt field at standstill with rated field voltage applied. Under this condition, the shunt field temperature may exceed rated temperature rise, and prolonged operation under this condition will result in reduced insulation life.

Reliance Electric SUPER RPM motors have field heating capability as follows:

1. **Standard Stabilized Shunt Wound SUPER RPM Motors for use with three-phase Controllers**

Standard continuous duty DPG, TEFC and TENV stabilized shunt wound SUPER RPM D-C motors have continuous duty fields capable of continuous excitation at standstill (armature circuit not energized) under normal industrial conditions.

NOTE: Motors designed for forced ventilation as standard, such as frames B500ATZ and larger, or with a dual-cooled heat exchanger (TEDC) must have cooling air when fields are excited at rated voltage. Installations having the air supply interrupted when the motor is not operating must have field disconnected or field voltage reduced to 50% rated or less.

Standard continuous duty self-ventilated motors are suitable for rated load at rated speed operation at field voltages up to 100% of rated value. Insulation life will be reduced if operated below 60% of base speed for prolonged periods. Refer to page 62-63 ***(Speed Range by Armature Voltage Control)*** for allowable continuous current (torque) values below base speed without forced ventilation.

2. **Straight Shunt SUPER RPM Motors for use with three-phase Controllers**

Since Straight Shunt Super RPM motors have more ampere turns in the main fields than stabilized shunt wound motors, the statement for continuous duty field capability in **Item No. 1** above does not apply to straight shunt motors designed for use with three-phase controllers. Straight shunt motors should be forced ventilated or have field power reduced when field voltage exceeds 105% rated for extended periods at standstill.

(Continued)

FIELD HEATING (Continued)

3. Stock Model Number Straight Shunt SUPER RPM Motors for use with single-phase controllers.

These motors have continuous duty fields capable of continuous excitation at standstill (armature circuit not energized) under normal industrial conditions.

4. Intermittent Duty D-C Motors

Motors rated 30 minute, 60 minute or other short time rating do not have fields capable of continuous excitation unless specifically requested on the sales order and indicated on the nameplate. Unless otherwise specified, all short time rated motors have fields capable of being excited only when the armature is energized.

5. Normal Industrial Conditions

Normal industrial conditions are as follows:

a. Exposure to an ambient temperature in the range of 0 °C to 40 °C. Cooling air for forced ventilated motors must not exceed 40 °C.

b. Maximum altitude 3300 ft. above sea level.

c. Relative humidity between 30 and 100% with no free water in the air.

d. Armature and field voltage must not exceed 110% of rated. Standard motors as defined in preceding **Items 1 and 3** will have Class F rise on the fields when operated at standstill (no armature power) with field voltages up to 105% rated. Field temperature may exceed the Class F rise but will not exceed the maximum allowable with field voltages between 105 and 110% rated. Motors having the fields energized for extended periods at voltages greater than 110% rated must have field power reduced or be force ventilated.

MOTOR PROTECTION

The successful application of D-C motors requires proper protection from the environment and from overtemperature and overcurrent operation. Refer to page 57 (***Enclosures***) and the ***Modification Section*** for detailed information on the various types of enclosures to provide protection from the environment.

Several devices to indicate motor overtemperature are listed in the ***Modification*** section along with their capabilities and limitations. The customer should select the proper device for the specific enclosure and application. Repeated operation of the overtemperature protector indicates a system installation which should be investigated.

Overcurrent sensing devices must be located remotely from the motor. These devices should be selected to match the thermal characteristics of the motor as closely as possible.

OVERLOADS

MOMENTARY—Standard SUPER RPM motors are capable of operating with successful commutation for a period of one minute with a current load of 150 percent of rated at all speeds within the rated speed range. The overload may occur approximately four times per hour but motor rms load must never exceed nameplate rating. In addition to this momentary overload rating, motors may be capable of additional overload rating depending on horsepower, base speed and field weakened speed. Refer to D-C Motor Guide.

Continual repetitive overloads will subject the armature and intercoil windings to high forces which may cause movement of the coils. This movement can break down the insulation on the coils. All applications requiring high overloads on a repetitive cyclic basis should be referred to Reliance Electric.

STARTING—Standard SUPER RPM motors are capable of 325 percent full load current for starting duty occasionally repeated.

STABILIZED SHUNT D-C MOTORS

Reliance Electric standard D-C motors for three phase drive applications are stabilized shunt wound with a high current, low turn winding connected in series with the motor armature carrying armature current. This series winding produces magnetic field flux in proportion to armature current, therefore, the total field flux increases as load current is increased tending to slow down or stabilize motor speed with increase in load.

With the series winding connected properly for forward rotation and motoring operation, it will be connected incorrectly under operating conditions of forward rotation with regenerative torque or reverse rotation with motoring torque. With the improper series field connection, the stabilizing effect of the series winding will be lost and the torque output of the motor will be reduced.

Motors having a stabilizing winding must have the series winding connected in the armature circuit to provide the proper speed stabilizing protection under overload conditions, and to obtain full rated torque from the motor. **If the series stabilizing winding is not connected, the control builder must insure that the motor is speed regulated to prevent the motor from exceeding the maximum safe speed listed on the motor nameplate.** Without the series winding connected, the motor will have reduced torque due to the loss of field flux from the series winding. Standard SUPER RPM have typically 5 to 15% of the total field flux from the series winding at full load with rated excitation of the shunt field.

When considering the effect of the series field during regenerative operation, the designer must remember that the series field connected in the differential mode will result in at least twice the torque loss in regenerative operation compared to not having the series field connected as for motoring operation. The reversal of current through the series field causes the series field flux to oppose the main field flux resulting in this additional loss of torque and increased motor instability.

In summary, the control manufacturer must insure that motor maximum safe speed is not exceeded and must recognize the resulting loss of torque when operating stabilized shunt wound motors without the series winding connected.

NOTE — Special designs having straight shunt windings may be obtained on special order. Most of these designs require that the motor be speed regulated.

As indicated on the basic price pages, high horsepower motors in Frames B840AT thru B1600AT have straight shunt windings with pole-face compensating windings to provide inherent stability and essentially linear torque characteristics.

APPLICATION DATA

SPEED RANGE

Speed Range by Armature Voltage Control

D-C motors have the inherent capability of producing rated torque when operated at rated current. However, the temperature rise of motors operated at full-load torque and at reduced armature voltage will vary with the enclosure, percentage of base speed and the type of power supply. All self-ventilated motors (both dripproof guarded and totally-enclosed fan-cooled) suffer a loss of heat dissipating ability as the speed is reduced below base speed and this will require that the torque load be reduced to avoid overheating the motor. In addition, the armature current ripple of certain rectifier circuits increases as armature voltage is reduced providing increased armature heating. Therefore, allowable continuous torque capability below base speed is a function of both speed and power supply. The percent of rated continuous armature current allowed on Reliance Electric DPG enclosures is given in Figures 1 thru 3. Data is given for both rated Class F temperature rise which will give optimum motor insulation life and for maximum allowable temperature rise which will give reduced insulation life if operated for an appreciable part of motor operating time at low speed.

Standard self-ventilated SUPER RPM motors may be operated at continuous full load currents down to approximately 60% of base speed on most power supplies. Standard DPG stock model number motors rated 180 volt armature for use on power supply K or 2/2-230-60-0 (S2R) are designed for full load current operation to 50% base speed.

The alternative to motor armature current derating for continuous reduced speed operation is the use of forced ventilation. Motor mounted blowers or separate forced ventilation for dripproof guarded motors and air-over blowers for totally-enclosed fan-cooled motors permit continuous full torque operation from base speed down to approximately one percent of base speed when the blower motors are operated on 60 Hz power. Refer to page 64 (***Power Supply — 50 Hz***) for limitations when the blower motors are operated on 50 Hz power.

TENV motors can generally be operated down to 5% base speed or lower on power supplies A, C and D since motor cooling is not dependent on motor speed except at lower armature rotation speeds the heat dissipation from the armature may be affected. When operated on high ripple power supplies such as power supply E some derating below 10% base speed may be required.

Standard TENV stock model numbers rated 180 volts armature for use on rectified power supply 2/2-230-60-0 (S2R) are designed for full load current operation to 1% base speed at maximum allowable temperature rise. When operated on power supply K they may be operated to 1% base speed with normal Class F temperature rise.

Calculated Data Show Approximate Values And Do Not Constitute Guarantees

Figure 1 — Maximum continuous loads for self-ventilated motors in frame diameter B180ATZ Base Speed of 2500, 1750, 1150, and 850 RPM

Fig. 1-A

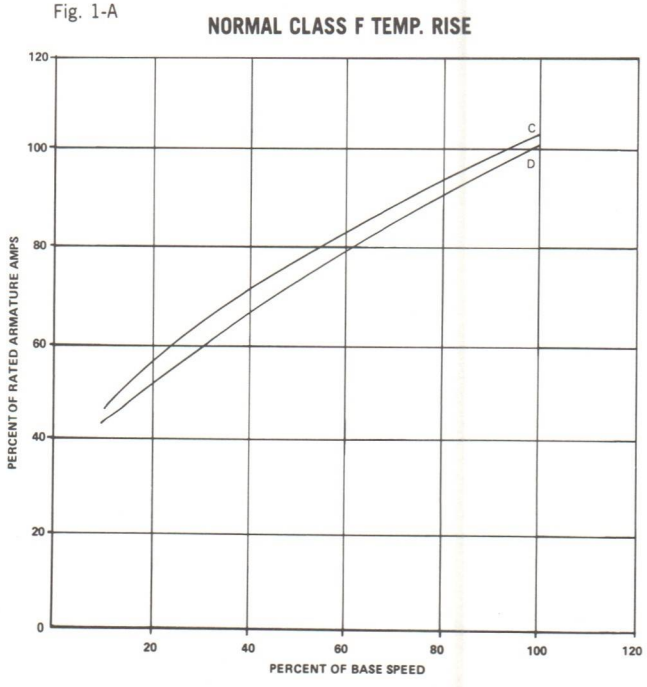
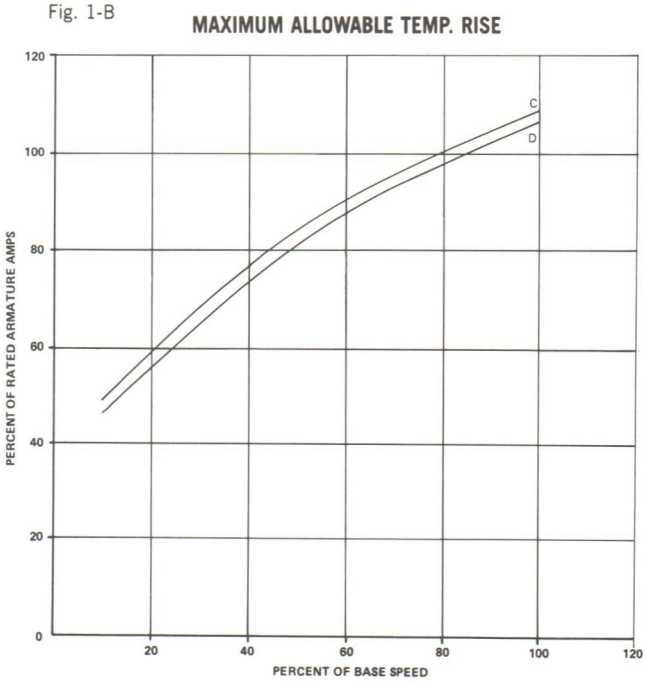


Fig. 1-B



C. Operated from 3-phase, 60 Hertz, full wave (6 controlled legs) A-C RMS voltage — 230 volts for 240 V. motors and 460 volts for 500 V. motors. NEMA Power Supply-C.

D. Operated from 3-phase, 60 Hertz, full wave (3 controlled legs) A-C RMS voltage — 230 volts for 240 V. motors and 460 volts for 500 V. motors. NEMA Power Supply-D.

Calculated Data Show Approximate Values And Do Not Constitute Guarantees

Figure 2 — Maximum continuous loads for self-ventilated motors in frame diameters B210 ATZ-B280ATZ Base Speed of 2500, 1750, 1150, and 850 RPM

Fig. 2-A

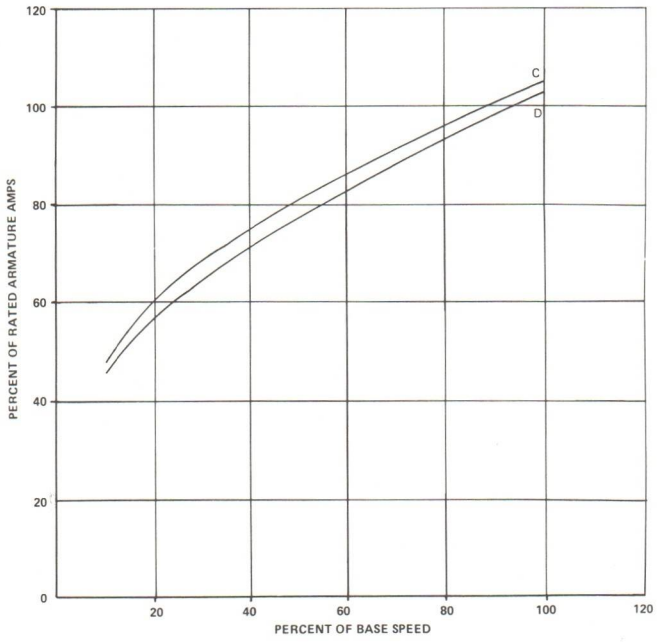


Fig. 2-B

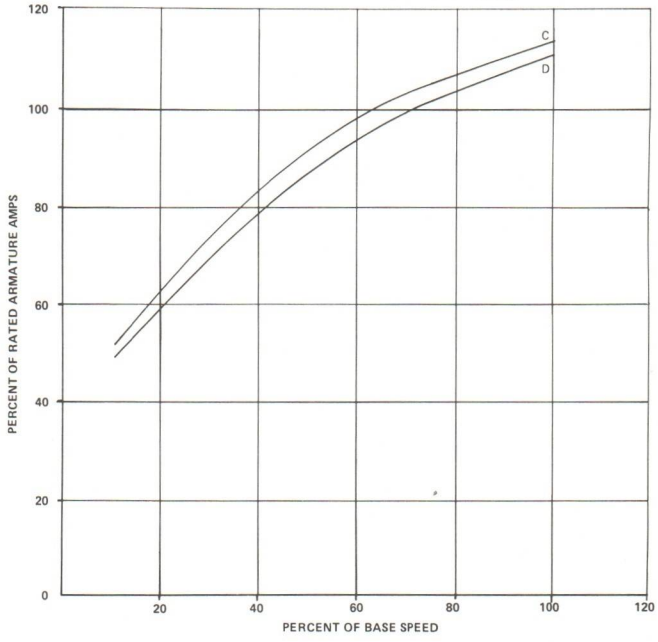


Figure 3 — Maximum continuous loads for self-ventilated motors in frame diameters B320ATZ-B400ATZ Base Speed of 1750, 1150, and 850 RPM

Fig. 3-A

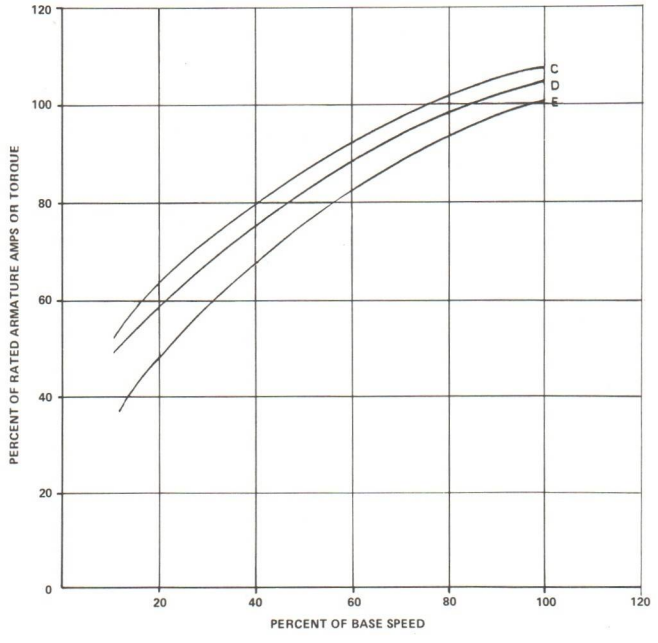
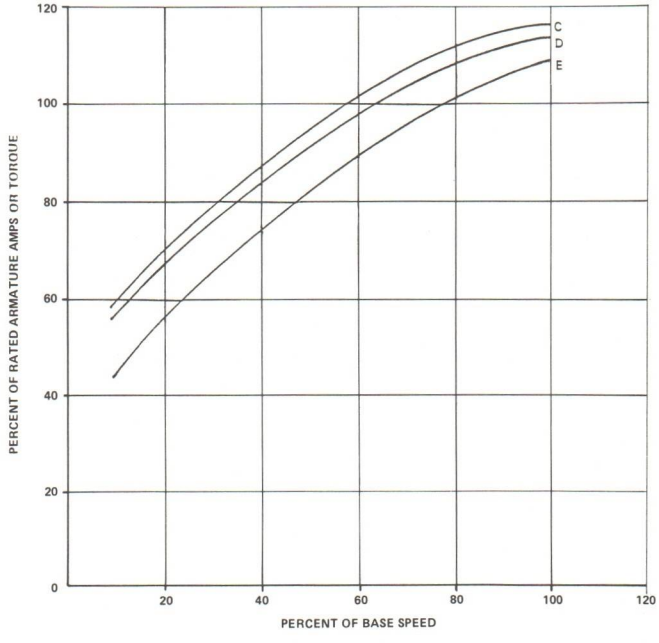


Fig. 3-B



C. Operated from 3-phase, 60 Hertz, full wave (6 controlled legs) A-C RMS voltage — 230 volts for 240 V. motors and 460 volts for 500 V. motors. NEMA Power Supply-C.

D. Operated from 3-phase, 60 Hertz, full-wave (3 controlled legs) A-C RMS voltage — 230 volts for 240 V. motors and 460 volts for 500 V. motors. NEMA Power Supply-D.

E. Operated from 3-phase, 60 Hertz, half-wave (3 controlled legs) grounded WYE secondary A-C RMS voltage 480 V. line to line (278 V. line to Neutral) for 240 V. motors. NEMA Power Supply 3/3-480-60-0.

APPLICATION DATA

SPEED RANGE (Continued)

Speed Range by Field Control

D-C motors may be operated in the field weakened range at rated armature voltage with a loss of output torque but with rated horsepower output. The amount of field weakening allowable is dependent on the rating and is specified in the ***Pricing Section*** and the ***Modification Section.*** **The motor control must be designed to limit the maximum motor speed under all operating conditions to the motor maximum safe speed listed on pages 58-59. Field weakened straight shunt motors must be speed regulated to limit speed to maximum safe speed. Compound wound motors are not suitable for operation over an extended speed range by shunt field weakening because of the very high no-load speeds that may result. Field weakening of 125% is the maximum allowable for compound wound motors.**

Whenever motors are required for operation in the field range, the customer must specify the speed range and the motor nameplate must indicate the allowable field weakened speed.

POWER SUPPLY

Power Supply Codes

Standard SUPER RPM motors are specifically designed to operate on rectified power supplies. Due to the many different types of rectified power supplies, the following classification system has been adopted by NEMA.

Description	Code (1)
D-c generator, battery or twelve pulse/cycle, six phase, full control	A
Six pulse/cycle, three phase, full control 230 or 460 volt, 60 Hz input to rectifier	C
Three pulse/cycle, three phase, semi-bridge ½ control 230 or 460 volt, 60 Hz input to rectifier	D
Three pulse/cycle, three phase, half wave (single way) 460 volt, 60 Hz input to rectifier	E
Two pulse/cycle, single phase, full wave (bridge circuit with 2-controlled rectifiers and 2-uncontrolled rectifiers and free-wheeling rectifier), 230 volt, 60 Hz input	K

(1) When the armature power supply cannot be designated by a single letter code (A, K, etc) the power supply shall be identified by the following code stamped on the motor nameplate.

M/N F-V-H-L

where
- M = Total pulses per cycle.
- N = Total controlled pulses per cycle.
- F = Free wheeling (if used).
- V = Nominal line-to-line a-c voltage to rectifier.
- H = Line frequency — Hz.
- L = Value of series inductance (in millihenries) to be added externally to the motor armature circuit.

Example:

A. "6/3 F-380-50-12" defines a power supply having 6 total pulses per cycle, 3 controlled pulses per cycle (S-3), with free wheeling, 380 volts, 50 Hz a-c input to bridge, and a 12 millihenry choke to be added externally to the motor armature circuit.

Standard SUPER RPM motors are designed to operate on the power supply indicated in the ***Pricing Section.***

Motors designed to operate on power code E or Reliance S3R are available by making a price addition from the ***Modification Section.*** Motors for use on other power supplies should be referred to Reliance Electric.

All motors will have the NEMA power supply code stamped on the nameplate.

Since the code letter has been selected in alphabetic order of increasing magnitude of ripple current, a motor may be operated on a power supply having a letter designation prior in the alphabet to the letter stamped on the nameplate, with no loss in nameplate rating. For example, a motor designed for a D type of power supply may be used on a C power supply having the same voltage rating.

Operating a motor on a power supply having a letter designation later in the alphabet to the letter stamped on the nameplate — for example, operating a power code C motor on a power code D supply will require derating the motor horsepower. The required derating for motors operated in the voltage range may be estimated from the curves on pages 62-63 (***Speed Range by Armature Voltage Control***).

Power Supply — 50 Hz

The standard NEMA power supply codes designate 60 Hz input to the rectifier bridge. When operated on 50 Hz rectified supplies. The motor may have to be derated for the following reasons.

1. The 50 Hz power source increases the ripple current due the lower armature circuit reactance resulting in increased motor heating and possible commutation problems.
2. The cooling air for forced ventilated, air-over and dual-cooled motors with a-c motor driven blowers is reduced considerably by the lower a-c motor speed on 50 Hz power.

Motors operating on 50 Hz rectified power supplies must be identified as suitable for 50 Hz operation or be checked for possible derating on 50 Hz power.

BELTED APPLICATIONS

All V-Belt drives must be designed and applied in accordance with the recommendations in this section.

To avoid excessive bearing loads and shaft stresses, belts should not be tightened more than necessary to transmit the rated torque. The pre-tensioning of the V-belt drive should be based on the total tightening force required to transmit the horsepower divided by the number of belts. This procedure avoids the excessive load caused by tightening individual belts to a prescribed level recommended by belt manufacturers.

Shaft stresses and bearing and belt loads will be reduced if sheave diameters larger than the calculated minimum are used, but the number of belts should be reduced accordingly.

The maximum V-belt velocity is 6500 feet per minute.

MOUNTING

In general, the closer pulleys, sheaves, sprockets or gears are mounted to the bearing on the motor shaft, the less will be the load on the bearing. This will give greater assurance of trouble-free service.

The center point of the belt, or system of V-belts, must not be beyond the end of the motor shaft.

The inner edge of the sheave or pulley rim should not be closer to the bearing than the shoulder on the shaft but should be as close to this point as possible.

The outer edge of a chain sprocket or gear must not extend beyond the end of the motor shaft.

(Continued)

BELTED APPLICATIONS (Continued)

MINIMUM V-BELT SHEAVE DIAMETERS

The calculated minimum pitch diameter of the V-belt sheave is based on the following:

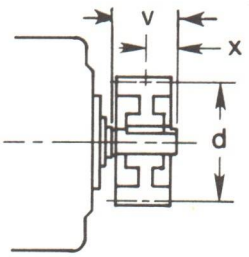
1. Belt service factor of approximately 1.6 with belts tightened to the belt manufacturer's recommendations.
2. Speed reduction not exceeding 5:1.
3. Mounting of sheave on motor shaft in accordance with the preceeding ***Mounting*** recommendings.
4. Center-to-center distance between sheaves approximately equal to five times the pitch diameter of the smaller sheave.

NOTE—The value "d" calculated may indicate a minimum sheave diameter which is smaller than is practicable to assemble on the motor shaft extension.

The horsepower ratings for belt drives may be found in ANSI Standard B5512 or in "Specifications for Drives Using Narrow Multiple V-Belts (3V, 5V and 8V Cross Sections)" published by Rubber Manufacturers Association and Mechanical Power Transmission Association or in Dodge Division Bulletin 30E.

Preferred V-Belt Drives—Sheave Centerline is Toward Motor From End of Shaft.

Minimum pitch diameters of sheaves must not be smaller than the values calculated by the following formula where the sheave centerline is toward the motor from the end of the shaft.



$$d_{inches} = \frac{hp}{100}(A - Bx);$$

where

d = minimum pitch diameter of V-belt sheave in inches.
hp = rated horsepower at base speed.
x = axial distance of the sheave centerline from the end of the shaft in inches. The distance is measured from the end of the shaft toward the motor.
A and B = constants from Table III corresponding to the base speed of the motor.

MINIMUM PITCH DIAMETER FOR DRIVES OTHER THAN V-BELT

To obtain the minimum pitch diameters for flat belt, timing-belt, chain and gear drives, apply the multiplier given in Table II to the minimum sheave diameter calculated for V-belt drives.

TABLE II—Multipliers For Drives Other Than V-Belt

Drive	Multiplier
Flat Belt (See Note 1)	1.33
Timing Belt (See Note 2)	0.9
Chain Sprocket	0.7
Spur Gear	0.75
Helical Gear	0.85

NOTE 1: The above multiplier is intended for use with conventional single-ply flat belts. When other than single-ply flat belts are used, the use of a larger multiplier is recommended.

NOTE 2: It is often necessary to install belts with a snug fit. However, tension should be no more than that necessary to avoid belt slap or tooth jumping.

TABLE III—Constants For Calculating The Minimum Sheave Diameters For V-Belt Drives

Frame		"V" Dim.	Constant	Base rpm							
				300	400	500	650	850	1150	1750	2500
B180ATZ ①	inches	2.50	A	—	—	—	—	60.47	49.8	38.0	30.27
			B	—	—	—	—	2.52	2.08	1.6	1.28
B210ATZ	inches	3.00	A	—	—	—	—	35.54	28.83	22.00	17.50
			B	—	—	—	—	1.53	1.00	.77	.61
B250ATZ	inches	3.50	A	—	—	—	—	30.25	23.37	17.33	13.80
			B	—	—	—	—	2.37	1.09	.54	.43
B280ATZ	inches	4.00	A	—	—	—	—	24.28	18.72	13.60	10.82
			B	—	—	—	—	1.91	.95	.38	.31
B320ATZ	inches	4.50	A	58.4	44.0	35.3	27.1	20.6	16.4	11.5	8.0
			B	5.98	4.48	3.64	2.80	2.16	1.42	.77	.45
B360ATZ	inches	5.00	A	51.8	39.0	31.0	27.3	19.2	12.0	8.0	
			B	4.95	3.74	3.00	2.30	1.74	1.25	.59	
UB408ATZ UB409ATZ	inches	6.25	A	34.0	26.8	22.3	18.0	14.5	11.3	8.0	
			B	1.50	1.18	.99	.79	.64	.50	.35	
UB4010ATZ	inches	6.25	A	—	—	—	—	7.92	6.09	4.27	
			B	—	—	—	—	.57	.35	.16	
UB500ATZ	inches	8.00	A	20.1	16.1	13.5	11.0	8.9			
			B	.68	.54	.46	.37	.30			
UB580ATZ	inches	8.00	A	20.1	16.1	13.5	11.0	8.9			
			B	.74	.59	.49	.40	.33			
B680ATZ	inches	8.75	A	Non-Standard—Consult Reliance Electric							
			B								

① Refer to I/M C-3080 for DB180ATZ frame.

APPLICATION DATA

ENGINEERING ESTIMATING DATA

Bearing and Shaft Data

Frame	Opposite Drive End			Drive End			Remarks
	Shaft ①			Shaft ①			
	"FU" Std.	"FU" Max.	Bearing	"U" Std.	"U" Max.	Bearing	
B180ATZ	1.125	1.125	206	1.375	1.500	208	Coupled or belted drive
B210ATZ	1.375	1.500	208	1.625	1.750	209	Coupled or belted drive
B250ATZ	1.625	1.750	209	1.875	1.875	310	Coupled or belted drive
B280ATZ	1.875	1.875	210	2.125	2.125	311	Coupled or belted drive
B320ATZ	2.125	2.125	211	2.375	2.50	313	Coupled or belted drive
B360ATZ	2.250	2.310	212	2.625	2.75	314	Coupled or belted drive
B400ATZ	2.875	—	216	2.875	—	219	Coupled duty only
UB408ATZ	2.875	—	216	3.250	—	NU219	Coupled or belted duty
UB409ATZ	2.875	—	216	3.250	—	NU219	Coupled or belted duty
UB4010ATZ	2.875	—	216	3.250	—	NU222	Coupled or belted duty
B500ATZ	3.625	—	219	3.625	—	219	Coupled duty only
UB500ATZ	3.625	—	219	4.125	—	NU222	Coupled or belted duty
B580ATZ	4.125	—	222	4.125	—	222	Coupled duty only
UB580ATZ	4.125	—	222	4.125	—	NU222	Coupled or belted duty
B680ATZ	4.500	4.500	224	4.500	4.500	224	Coupled duty only
B840AT	5.750	—	230	5.750	—	230	Coupled duty only
B840AT	5.750	—	230	6.500	—	234	Tandem Drive-Coupled duty only
B960AT	6.500	—	234	6.500	—	234	Coupled duty only
B960AT	6.500	—	234	7.250	—	238	Tandem Drive-Coupled duty only

① Maximum "U" dimension is largest diameter that can be supplied with standard bearing. Price addition per Mod. 272 or 273 must be made to obtain this maximum diameter or any diameter between the standard and the maximum.

AFBMA Designation Versus Bearing Size

Ball Bearings—Single Row, Ball-Depth Groove, Open (No Shields)
Std. Cage, ABEC 1, AFBMA 3 Clearance, SLUSH.

Size	AFBMA Designation	Size	AFBMA Designation
206	30BC02X30X26	222	110BC02X30X26
208	40BC02X30X26	224	120BC02X30X26
209	45BC02X30X26	230	150BC02X30X26
210	50BC02X30X26	234	170BC02X30X26
211	55BC02X30X26	238	190BC02X30X26
212	60BC02X30X26	310	50BC02X30X26
213	65BC02X30X26	311	55BC03X30X26
216	80BC02X30X26	313	65BC03X30X26
219	95BC02X30X26	314	70BC03X30X26

Roller Bearings—Single Row, Cylindrical Roller, Bronze Cage, ABEC 1, AFBMA 3 Clearance, SLUSH, Heat Stabilized.

Size	AFBMA Designation
NU219	95RU02M30X28
NU222	110RU02M30X28
NU238	190RU02M30X26
NU244	220RU02M30X26
NU248	240RU02M30X26
NU252	260RU02M30X26
NU1056	280RU10M30X26
NU1064	320RU10M30X26

Slide Bases and Rails

Frame	Part No.	Dimension Sheet	Type
DB1810ATZ	42384-26D	609907-4	Standard Duty ① Adjustable Slide Base
DB1811ATZ	42384-26BP		
B1811ATZ	42384-26BE	609907-4	Heavy Duty ② Adjustable Slide Base
B1812ATZ	42384-26BF		
B2111ATZ	42384-26BG		
B2112ATZ	42384-26BH		
B2510ATZ	42384-26BJ		
B2511ATZ	42384-26BK		
B2810ATZ	42384-26BL		
B2811ATZ	42384-26BM		
B327ATZ	42384-26-AL	609907-1	
B328ATZ	42384-26-AM		
B366ATZ	42384-26-BN		
B367ATZ	42384-26-AN		
B368ATZ	42384-26AP		
B369ATZ	42384-26-BA		
B3610ATZ	42384-26-BB		
UB408ATZ	42384-26-BC		
UB409ATZ	42384-26-BD		
UB4010ATZ	42384-26-BY		
UB500ATZ	42384-5-D	609907-2	Adjustable Slide Rails (2 per set)
UB580ATZ	42384-5-H		
UB680ATZ ③	42384-5-G		

① Standard duty adjustable slide bases have one adjusting bolt.
② Heavy duty adjustable slide bases have two adjusting bolts.
③ Frames B680ATZ available for belted duty cannot be priced from this catalog. Refer details of application to Reliance Electric for special quotation.

ENGINEERING ESTIMATING DATA (Continued)

Blower Motor Data

A-C Motor Specifications For Blower Motors On Standard Dripproof Forced-Ventilated SUPER RPM D-C Motors ①②

SUPER RPM Motor			Blower Motor 50/60 Hz						
			3-Phase, 60 Hz, 230/460 V			3-Phase, 50 Hz, 230/460 V			
Frame	Speed rpm	HP	rpm	F. L. Amps	Locked Rotor Amps	rpm	F. L. Amps	Locked Rotor Amps	Style No.
B180ATZ	All	1/3	3450	1.04/ .52	6.45/3.23	2850	1.08/ .54	6.78/3.89	718295
B210ATZ	All	1/2	3450	1.05/ .75	10.2/5.1	2850	1.80/ .90	11.2/5.6	715383
B250ATZ	All	1/2	3450	1.50/ .75	10.2/5.1	2850	1.80/ .90	11.2/5.6	715383
B280ATZ	All	1/2	3450	1.50/ .75	10.2/5.1	2850	1.80/ .90	11.2/5.6	715383
B320ATZ	All	1/2	3450	1.5 / .75	10.2/5.1	2850	1.8/ .9	11.2/5.6	715383
B360ATZ	All	1	3450	3.30/1.65	23.8/11.9	2850	3.70/1.75	24.6/12.3	721026
B400ATZ	All	1	1730	3.40/1.70	26.0/13.0	1440	4.20/2.10	28.6/14.3	722070
B500ATZ	All	1	1730	3.40/1.70	26.0/13.0	1440	4.20/2.10	28.6/14.3	722070
B580ATZ	All	2	1730	5.9/2.95	34.0/16.0	1450	7.0/3.5	39.0/19.5	718741
B680ATZ	All	2	1730	5.9/2.95	34.0/17.0	1450	7.0/3.5	39.0/19.5	718741
B840AT	All	5 ③	1740	13.6/6.8	84/42	—	—	—	P18J12
B840AT	All	10 ③	—	—	—	2920 ④	26/15 ④	142/83 ④	406122-5KC
B960AT	All	5 ③	1740	13.6/6.8	84/42	—	—	—	P18J12
B960AT	All	10 ③	—	—	—	2920 ④	26/15 ④	142/83 ④	406122-5KC
B1200AT	All	7.5 ③	3450	20.4/10.2	124/62	—	—	—	406122-5LE
B1400AT	All	10 ③	3450	25.0/12.5	144/72	—	—	—	406122-5LM
B1600AT	All	20 ③	3450	50/25	276/138	—	—	—	406122-5LN

A-C Motor Specifications For Blower Motors on Standard Totally-Enclosed Air-Over In-Line SUPER RPM D-C Motors ①

SUPER RPM Motor			Blower Motor 50/60 Hz							
			3-Phase, 60 Hz, 230/460 V			3-Phase, 50 Hz, 230/460 V				
Frame	Speed rpm	HP	rpm	F. L. Amps	Locked Rotor Amps	rpm	F. L. Amps	Locked Rotor Amps	Style No.	Part No.
B180ATZ	All	1/3	1725	1.4/ .7	7.2/3.6	—	—	—	760019	601431-FZ
B210ATZ	All	1/3	1725	1.4/ .7	7.2/3.6	—	—	—	760019	601431-FZ
B250ATZ	All	1/3	1725	1.4/ .7	7.2/3.6	—	—	—	760019	601431-FZ
B280ATZ	All	1/2	1725	2.2/1.1	12.2/6.1	—	—	—	—	601431-DX
B320ATZ	All	3/4	1725	2.6/1.3	17.6/8.8	—	—	—	—	601431-FB
B360ATZ	All	1 1/2	1725	5.81/2.9	32/16	—	—	—	—	601431-DG
B400ATZ	—	—	—	—	—	—	—	—	—	—

A-C Motor Specifications For Blower Motors On Standard Totally-Enclosed Air-Over Piggy-Back SUPER RPM D-C Motors ①

SUPER RPM Motor			Blower Motor 50/60 Hz							
			3-Phase, 60 Hz, 230/460 V			3-Phase, 50 Hz, 230/460 V				
Frame	Speed rpm	HP	rpm	F. L. Amps	Locked Rotor Amps	rpm	F. L. Amps	Locked Rotor Amps	Style No.	Part No.
B180ATZ	All	1/3	3450	1.04/ .52	6.45/3.23	2850	1.08/.54	6.78/3.89	760029	601431-FY
B210ATZ	All	1/2	3450	1.50/ .75	10.2/5.1	2850	1.80/.90	11.2/5.6	715383	601431-GA
B250ATZ	All	1/2	3450	1.50/ .75	10.2/5.1	2850	1.80/.90	11.2/5.6	715383	601431-GA
B280ATZ	All	1/2	3450	1.50/ .75	10.2/5.1	2850	1.80/.90	11.2/5.6	715383	601431-GA
B320ATZ	All	1 1/2	1725	6.81/2.9	32.0/16.0	—	—	—	—	601431-DG
B360ATZ	All	1 1/2	1725	5.81/2.9	32.0/16.0	—	—	—	—	601431-DG
B400ATZ	All	1	1750	3.3 /1.65	18.6/9.3	—	—	—	—	601431-GJ
B500ATZ	All	1	1730	3.40/1.70	26.0/13.0	1440	4.20/2.10	28.6/14.3	722070	—

① For estimating purposes only.
② See next page for Filter Data.
③ Two blower motors of this hp rating on each D-C motor.
④ 220/380 v.

APPLICATION DATA

ENGINEERING ESTIMATING DATA (Continued)

Inertia and Weight

Frame Size	Wk²-Lb. Ft.² ①		Motor Weight — Lbs. ①			
	Forced Vent Without Internal Fan	Self Vent With Internal Fan	Self Vent	Forced Vent With Blower	Forced Vent With Blower and Filter	Pipe-In Separately Vent
DB1810ATZ	.680	.680	120	145	160	120
B1811ATZ	.683	.683	160	185	200	155
DB1811ATZ	.791	.791	130	155	170	130
B1812ATZ	.787	.787	180	205	220	175
B2111ATZ	1.78	1.78	280	305	320	275
B2112ATZ	2.28	2.28	320	355	360	315
B2510ATZ	3.35	3.35	400	425	440	395
B2511ATZ	3.85	3.85	450	475	490	445
B289ATZ	4.81	4.81	630	655	665	625
B2810ATZ	5.20	5.20	670	695	705	665
B2811ATZ	5.95	5.95	730	755	765	725
B327ATZ	7.4	8.0	770	795	800	765
B328ATZ	8.2	8.8	810	835	840	805
AB328ATZ	9.0	9.6	850	875	880	845
B367ATZ	15.2	16.2	1010	1040	1045	1005
B368ATZ	18.4	19.4	1180	1210	1215	1175
B369ATZ	20.1	21.1	1290	1320	1325	1285
B3610ATZ	22.1	23.1	1370	1400	1405	1365
B408ATZ	42	44	1815	1850	1855	1800
B409ATZ	50	52	2090	2125	2130	2075
B4010ATZ	54	—	—	2245	2250	2195
B506ATZ	108	131	2600	2625	2705	2560
B507ATZ	126	149	3030	3025	3135	2990
B508ATZ	144	167	3425	3450	3585	3385
B587ATZ	282	317	4555	4570	4670	4505
B588ATZ	319	354	5140	5155	5255	5090
B589ATZ	350	385	5540	5555	5655	5490
B686ATZ	578	631	6880	6885	6985	6820
B687ATZ	633	686	7550	7555	7655	7490
B688ATZ	731	784	8710	8715	8815	8650
B842AT	1044	—	—	10960	11160	10635
B843AT	1144	—	—	11895	12095	11570
B844AT	1224	—	—	12705	12905	12380
B845AT	1365	—	—	13940	14140	13615
B846AT	1465	—	—	15045	15245	14720
B847AT	1565	—	—	15900	16100	15575
B962AT	2468	—	—	15965	16165	15640
B963AT	2668	—	—	17050	17250	16725
B964AT	2908	—	—	18510	18710	18185
B965AT	3227	—	—	20215	20415	19890
B966AT	3547	—	—	22100	22300	21775
B1202AT	4330	—	—	—	22900	21400
B1204AT	5080	—	—	—	25300	23800
B1205AT	5630	—	—	—	27100	25600
B1206AT	6070	—	—	—	28600	27100
B1207AT	6530	—	—	—	30100	28600
B1208AT	7190	—	—	—	31800	30300
B1209AT	7640	—	—	—	33200	31700
B1401AT	5880	—	—	—	24000	22500
B1403AT	6990	—	—	—	26500	25000
B1405AT	8620	—	—	—	29800	28300
B1406AT	9450	—	—	—	30500	29000
B1407AT	10140	—	—	—	32900	31400
B1408AT	10530	—	—	—	33900	32400
B1409AT	11820	—	—	—	36400	34900
B1601AT	12790	—	—	—	34600	33000
B1602AT	15040	—	—	—	37860	36260
B1603AT	17580	—	—	—	41470	39870
B1604AT	19830	—	—	—	44650	43050
B1605AT	21610	—	—	—	47180	45580
B1606AT	22820	—	—	—	48890	47290
B1607AT	24320	—	—	—	51000	49400
B1608AT	25500	—	—	—	52700	51100
B1609AT	27900	—	—	—	56100	54500
B1610AT	30300	—	—	—	59570	57970

① For estimating purposes only.

Approximate full load currents (Average d-c values) for estimating purposes only

HP	Amps at 180V	Amps at 240V	Amps at 500V	Amps at 600V	Amps at 700V
1	6.1	4.7	—	N/A	N/A
1½	8.3	6.6	—	N/A	N/A
2	9.6	8.5	—	N/A	N/A
3	14.1	12.2	—	N/A	N/A
5	24.0	20	—	N/A	N/A
7½	36	28	14	N/A	N/A
10	N/A	37	17	N/A	N/A
15	N/A	54	26	N/A	N/A
20	N/A	71	34	N/A	N/A
25	N/A	88	42	N/A	N/A
30	N/A	105	50	N/A	N/A
40	N/A	141	68	N/A	N/A
50	N/A	175	84	N/A	N/A
60	N/A	212	99	N/A	N/A
75	N/A	255	123	N/A	N/A
100	N/A	341	164	N/A	N/A
125	N/A	425	205	N/A	N/A
150	N/A	506	244	N/A	N/A
200	N/A	675	323	N/A	N/A
250	N/A	N/A	399	N/A	N/A
300	N/A	N/A	477	N/A	N/A
400	N/A	N/A	633	N/A	N/A
500	N/A	N/A	793	N/A	N/A
600	N/A	N/A	950	N/A	N/A
700	N/A	N/A	1100	N/A	N/A
800	N/A	N/A	1262	N/A	N/A
900	N/A	N/A	1430	N/A	N/A
1000	N/A	N/A	1585	N/A	N/A
1100	N/A	N/A	1747	1455	N/A
1250	N/A	N/A	N/A	1642	1412
1500	N/A	N/A	N/A	1963	1704
1750	N/A	N/A	N/A	N/A	1960
2000	N/A	N/A	N/A	N/A	2234
2250	N/A	N/A	N/A	N/A	2528
2500	N/A	N/A	N/A	N/A	2812
3000	N/A	N/A	N/A	N/A	3359

Filter data for SUPER RPM motors with motor-mounted blower with filter.

Frame	Quantity	Size — Inches	Type
B1810ATZ	1	6.81 Dia. × 6.12 Long	Washable Wire Mesh
B210ATZ	1	9.12 Dia. × 6.12 Long	
B250ATZ	1	9.12 Dia. × 6.12 Long	
B280ATZ	1	9.12 Dia. × 6.12 Long	
B320ATZ	1	9.12 Dia. × 6.12 Long	
B360ATZ	1	9.12 Dia. × 9.62 Long	
B400ATZ	1	12.88 Dia. × 8.12 Long	
B500ATZ	2	16 × 20 × 1	Washable Self-Charging Electrostatic
B580ATZ	3	20 × 20 × 1	
B680ATZ	3	20 × 20 × 1	
B840AT	4 4	20 × 25 × 1 20 × 15 × 1	
B960AT	4 4	20 × 25 × 1 20 × 15 × 1	
B1200AT	9	20 × 20 × 1	
B1400AT	9	20 × 20 × 1	
B1600AT	9	20 × 25 × 1	

(Continued)

ENGINEERING ESTIMATING DATA (Continued)

Noise

Department of Labor, Occupational Safety and Health Administration (OSHA) requirements state that protective devices shall be provided for workers exposed daily to sound pressure levels in excess of 90 dBA for eight hours, 92 dBA for six hours, 95 dBA for four hours, 97 dBA for three hours, 100 dBA for two hours, etc. The noise level is the total sound pressure level in the worker's environment and is a function of the individual noise source, location of the noise source with respect to the worker and the acoustical characteristics of the area. In order for the user to estimate the total noise in a specific installation, NEMA has prepared a handbook ***"Sound Level Prediction for Installed Rotating Electrical Machines"***, NEMA publication #MG-3-1974 (available from NEMA, 2101 L. Street, Washington, D. C. 20037).

The actual noise encountered by the worker is dependent on the noise sources, distance from the noise sources and room characteristics and may be estimated by using the NEMA handbook. Values of motor noise to use in these calculations are shown below.

To meet the requirements of actual operating condition the data in this section is given in terms of "_ dBA sound pressure at 3 feet under conditions of rated current when operated on power supply C at base speed". Values are given by frame diameter for dripproof guarded, dripproof with motor mounted blower, totally-enclosed fan-cooled and totally-enclosed non-ventilated enclosures.

Motor noise may be required in terms of sound power in calculating total noise at an installation. The graph below shows how to convert from sound pressure to sound power levels.

Requests for lower noise levels or detailed customer noise specification must be submitted to Reliance Electric for review and quotation.

NOTE — D-C motors operated on rectified power produce a characteristic noise, best described as a "hum", which has its origin in the a-c ripple voltage inherent in this power source. These a-c ripple voltages produce corresponding a-c ripple currents in the motor armature circuit, and these periodic currents interact with motor field fluxes to produce periodic forces which can excite vibration of various parts of the motor structure. These ripple currents are more properly termed harmonic currents and their magnitude and number is dependent upon several factors including power supply type, armature circuit inductance and SCR conduction angle. The noise which results from these current harmonic excitation forces may not exceed legal or specified limits. It can be annoying, however, because of its high pure tone content.

Noise Level Data

Mean Sound Pressure Level, dBA at 3 feet, with motor operating at Base Speed and Full Load on Power Code C (S-6) Power Supply. Levels are nominal values and may vary +3, −7 dBA on specific motors. All data based on the mean value of four microphone positions under free field conditions (R = infinity). (Refer to Reliance Electric if guaranteed values are required.)

	BASE SPEED															
	850 rpm				1150 rpm				1750 rpm				2500 rpm			
Frame	DPG	TENV	FV	TEFC	DPG	TENV	FV	TEFC	DPG	TENV	FV	TEFC	DPG	TENV	FV	TEFC
DB180ATZ	58	58	70	58	60	60	73	60	64	64	75	70	71	70	75	73
B180ATZ	58	58	70	58	60	60	73	60	64	74	75	70	71	70	75	73
B210ATZ	58	58	70	58	62	62	73	62	71	66	75	73	77	70	80	76
B250ATZ	60	60	73	60	65	65	78	65	74	74	80	76	80	74	82	82
B280ATZ	63	63	77	63	68	68	78	68	77	75	80	79	82	75	82	84
B320ATZ	71	71	78	71	75	75	78	76	81	75	80	82	85	75	82	87
B360ATZ	78	78	79	79	79	79	79	79	84	79	80	85	90	79	82	90
B400ATZ	79	79	80	80	80	80	80	82	86	80	81	88	95	80	85	93
B500ATZ	—	—	79	—	—	—	81	—	—	—	83	—	—	—	85	—
B580ATZ	—	—	81	—	—	—	83	—	—	—	83	—	—	—	87	—
B680ATZ	—	—	85	—	—	—	85	—	—	—	85	—	—	—	89	—
B840AT	—	—	88	—	—	—	88	—	—	—	—	—	—	—	—	—
B960AT	—	—	88	—	—	—	88	—	—	—	—	—	—	—	—	—

DPG — Drip-proof guarded self-ventilated with internal fan on shaft.
TENV — Totally-enclosed non-ventilated.
FV — Force ventilated with motor mounted blower with or without filter.
TEFC — Totally-enclosed fan-cooled.

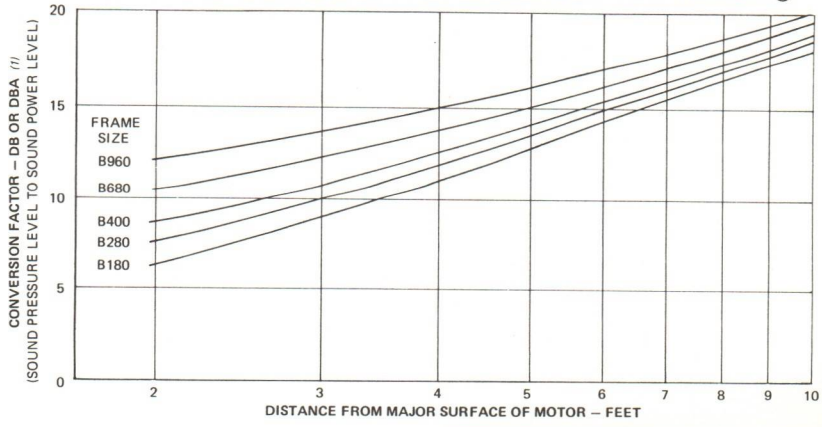
Conversion of Sound Pressure To Sound Power DB Correction VS. Distance From Motor ②

NOTE: These conversion factors are based on ideal conditions in an anechoic (free field) room. These factors may not be accurate in application environments where room conditions (ambient and reverberation characteristics) may contribute to higher sound intensities at specific locations.

Example:
Sound Power Level = Sound Pressure Level + Conversion Factor

If sound pressure is 80 DBA at 3 feet for a B400ATZ frame and sound power is desired, find 3 feet mark on horizontal axis and follow it up to the B400 curve and read +10.7 on the vertical axis.

Sound Power: = 80 + 10.7 = 90.7 DBA Sound Power Level.



① DBA readings are mean sound pressure level. Values apply to Octave Band, Broad Band DB & DBA
② Graph may also be used to convert sound power to sound pressure level.

(Continued)

APPLICATION DATA

ENGINEERING ESTIMATING DATA (Continued)

Axial Thrust Capacity In Pounds For Minimum B-10 Bearing Life of 10,000 Hrs. With No External Overhung Load

Frame	AXIAL THRUST CAPACITY IN POUNDS							
	Horizontal Mounting				Vertical Mounting ①			
	2500 rpm	1750 rpm	1150 rpm	850 rpm	2500 rpm	1750 rpm	1150 rpm	850 rpm
DB180ATZ	176	207	251	286	190 ± 45	217 ± 45	265 ± 45	295 ± 45
B180ATZ	295	345	417	477	307 ± 45	356 ± 45	430 ± 45	492 ± 45
B210ATZ	436	513	617	707	456 ± 75	534 ± 75	640 ± 75	729 ± 75
B250ATZ	480	560	680	778	508 ± 105	593 ± 105	710 ± 105	811 ± 105
B280ATZ	509	600	722	828	541 ± 125	629 ± 125	755 ± 125	865 ± 125
B320ATZ	590	700	850	975	644 ± 271	754 ± 271	905 ± 271	1038 ± 271
B360ATZ	705	835	1020	1170	770 ± 360	905 ± 360	1095 ± 360	1250 ± 360
B408ATZ	900	1100	1375	1550	980 ± 522	1225 ± 522	1540 ± 522	1715 ± 522
B409ATZ	875	1075	1350	1525	970 ± 599	1210 ± 599	1525 ± 599	1700 ± 599
B4010AT	920	1080	1330	1540	1040 ± 655	1230 ± 655	1495 ± 655	1715 ± 655
B506ATZ	1350	1630	2000	2250	1470 ± 828	1820 ± 828	2210 ± 828	2475 ± 828
B507ATZ	1310	1580	1975	2200	1460 ± 942	1810 ± 942	2200 ± 942	2460 ± 942
B508ATZ	1280	1550	1920	2175	1450 ± 1056	1790 ± 1056	2185 ± 1056	2450 ± 1056
B587ATZ	1635	1990	2475	2850	1900 ± 1395	2300 ± 1395	2875 ± 1395	3260 ± 1395
B588ATZ	1585	1930	2430	2790	1875 ± 1553	2290 ± 1553	2865 ± 1553	3250 ± 1553
B589ATZ	1540	1890	2400	2750	1860 ± 1678	2280 ± 1678	2860 ± 1678	3245 ± 1678
B686ATZ	1440	1825	2325	2675	—	2310 ± 2122	2920 ± 2122	3320 ± 2122
B687ATZ	1400	1775	2275	2625	—	2300 ± 2298	2910 ± 2298	3310 ± 2298
B688ATZ	1325	1675	2150	2550	—	—	2900 ± 2616	3300 ± 2616
B842AT	—	2030	2600	3050	—	—	3360 ± 2844	3870 ± 2844
B843AT	—	1980	2530	2975	—	—	3350 ± 3082	3865 ± 3082
B844AT	—	1925	2480	2925	—	—	3340 ± 3271	3860 ± 3271
B845AT	—	1860	2425	2850	—	—	—	3850 ± 3604
B846AT	—	1780	2330	2750	—	—	—	—
B847AT	—	1730	2270	2680	—	—	—	—
B962AT	—	2060	2730	3200	—	—	—	—
B963AT	—	2000	2625	3120	—	—	—	—
B964AT	—	1900	2500	3000	—	—	—	—
B965AT	—	1750	2375	2850	—	—	—	—
B966AT	—	1625	2240	2725	—	—	—	—

① Thrust capacity for vertical mounting includes a constant whose value is plus or minus depending on the direction of the thrust load. The constant is plus for thrust loads acting upward against the force of gravity and minus for loads acting downward with gravity.

Radial Load Capacity

Frame	Radial Load Capacities at the End of the Shaft in Lbs. ②			
	2500 rpm	1750 rpm	1150 rpm	850 rpm
DB160ATCZ	210	238	275	325
DB180ATCZ	310	345	395	440
B180ATZ	500	565	625	625
B210ATZ	555	630	735	775
B250ATZ	865	865	850	845
B280ATZ	1050	1060	1055	1045
B320ATZ	1500	1500	1500	1500

Frame	Radial Load Capacities at the End of the Shaft in Lbs. ②			
	2500 rpm	1750 rpm	1150 rpm	850 rpm
B360ATZ	1685	1710	1710	1710
UB408ATZ ③	2550	2875	3300	3310
UB409ATZ ③	2550	2875	3300	3310
UB4010ATZ ③	3625	4090	4700	5190
UB500ATZ ③	3625	4090	4700	5190
UB580ATZ ③	2275	2275	2275	2275
B680ATZ	Refer to Reliance Electric			

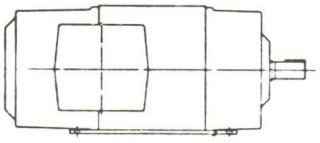
② CAUTION: The use of these radial load capacities requires the accurate calculation of the radial load for the application. Radial loads for gears, sprockets, and flywheel are usually accurately determined, but the radial loads due to V-belt drives are subject to miscalculations because they do not include all of the pre-tension load (belt tightening). The calculations of the radial load for a V-belt drive must include the pre-tension for transmitting the horsepower, pre-tension for centrifugal force on the belts, pre-tension for high starting torques, rapid acceleration or deceleration, pre-tension for drives with short arc-of-contact between the V-belt and sheave, and low coefficient of friction between belt and sheave caused by moisture, oil or dust.

③ Data for motors with roller bearings at the drive end (back end). Motors with ball bearings at the drive and are for coupled duty only.

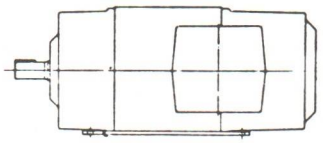
APPLICATION DATA

MOTOR MOUNTING ASSEMBLY SYMBOLS

FLOOR MOUNTINGS

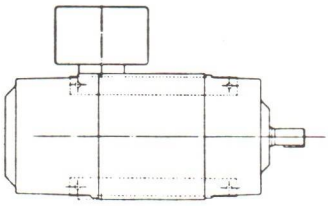


ASSEMBLY F-1
STANDARD MOUNTING

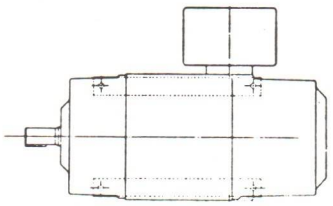


ASSEMBLY F-2

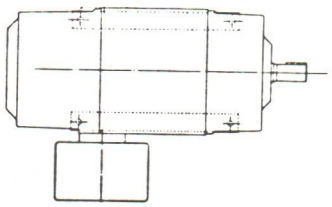
WALL MOUNTINGS



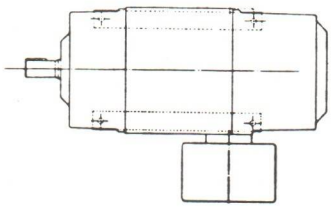
ASSEMBLY W-1



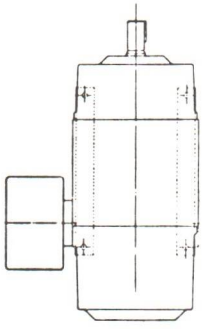
ASSEMBLY W-2



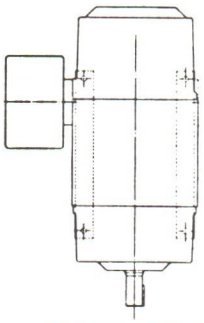
ASSEMBLY W-3



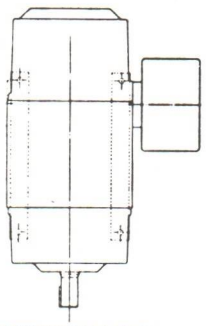
ASSEMBLY W-4



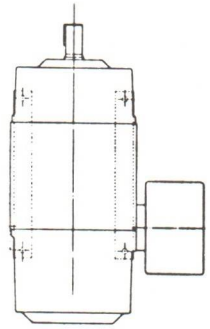
ASSEMBLY W-5 (1)



ASSEMBLY W-6

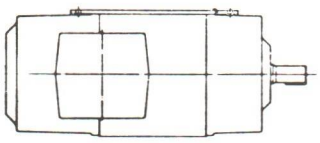


ASSEMBLY W-7

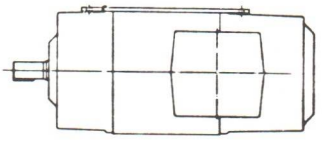


ASSEMBLY W-8(1)

CEILING MOUNTINGS



ASSEMBLY C-1



ASSEMBLY C-2

① Frame sizes B180ATZ thru B400ATZ with position W5 or W8 mounting not available with dripproof guarded enclosure. Available only in guarded configuration or may be supplied as dripproof guarded-force ventilated with motor mounted blower.

APPLICATION DATA

RENEWAL PARTS

An adequate stock of factory-made renewal parts is an integral part of a sound maintenance program to protect against costly downtime. A list of minimum recommended spare parts for one to four duplicate units in operation is contained in the Reliance Electric motor instruction manual.

Detailed information on renewal parts is contained in NEMA Standards Publication No. RP1-1981 ***Renewal Parts for Motors and Generators (Performance, Selection and Maintenance).*** Copies are available from NEMA, 2101 L Street, N.W., Washington, D.C. 20037.

USEFUL FORMULAS

1 hp = 746 watts = .746 KW

$$HP = \frac{(\text{Torque in Lb-ft})(RPM)}{5250}$$

$$\text{TORQUE IN LB-FT} = \frac{(5250)(HP)}{RPM}$$

TIME REQUIRED TO CHANGE SPEED OF ROTATING MASS FROM N_1 to N_2 RPM

$$t(\text{sec.}) = \frac{(WK^2)(N_2 - N_1)}{(308)(\text{Torque in Lb-ft})}$$

where WK^2 = Total inertia of motor and load

$N_2 - N_1$ = Change in speed in rpm

When calculating torque available for acceleration remember that every machine has friction. Torque available for acceleration is motor torque less machine frictional torque.

FIELD RESISTANCE

$$\text{Cold Field Resistance} = \frac{\text{Rated Field Volts}}{\text{Cold Field Amps}}$$

$$\text{Rated or Hot Field Resistance} = \frac{\text{Rated Field Volts}}{\text{Rated or Hot Field Amps}}$$

$$\textbf{INERTIA REFLECTED TO MOTOR} = \text{LOAD INERTIA} \left(\frac{\text{Load rpm}}{\text{Motor rpm}}\right)^2$$

BASIC D-C RELATIONSHIPS

$$\text{Torque} = KI_A\phi_f$$

where K is a machine constant

I_A is armature current

ϕ_f is field flux

$$\text{Torque (approx.)} = \frac{7.04\ E_{GEN} I_A}{RPM}$$

$$\text{Speed (RPM)} = \frac{V_A - I_A R_A}{K\phi_f}$$

where V_A is armature voltage

R_A is total armature circuit resistance

MOTOR

$$V_A = E_{GEN} + I_A R_A$$

where $E_{GEN} = E_{CEMF} = K\phi(RPM)$

GENERATOR

$$V_T = E_{GEN} - I_A R_A$$

where V_T is Terminal (output) voltage

TEMPERATURE CONVERSION

(F° to C°) $C° = 5/9\ (F° - 32°)$

(C° to F°) $F° = 9/5\ C° + 32°$

DIMENSIONS

INDEX

ENCLOSURE	COOLING	MOUNTING	ACCESSORIES	FRAMES	Pg.C-
DPG, SPG, TENV	Self-Vent Non-Vent	Foot	Prov. for Tach	B180ATZ-280ATZ B320ATZ-B360ATZ B400ATZ-B680ATZ	74 75 76
		NEMA A-C C-Face and Foot	Prov. for Tach	DB180ATY-DB180ATCZ B180ATCZ-B280ATCZ	77 78
		NEMA A-C C-Face one size smaller than D-C frame and foot	Prov. for Tach	B210ATCZ-B250ATCZ	79
		NEMA A-C C-Face one size larger than D-C frame and foot	Prov. for Tach	B180ATCZ-B210ATCZ	80
		D-Flange and foot	— Tachometer	B180ATDZ-B360ATDZ B400ATDZ-B500ATDZ	81 82
DPG, SPG	Sep Vent Pipe-In	Foot	Tachometer	B1200AT B1400AT B1600AT	83 84 85
DPGFV, SPGFV	Force-Vent with Blower and Filter	Foot	Tachometer	B180ATZ-B280ATZ B320ATZ-B360ATZ B400ATZ B500ATZ-B680ATZ B840AT B960AT B1200AT B1400AT	86 87 88 89 90 91 92 93
TEFC	Fan Cooled	Foot	Tachometer	B180ATZ-B280ATZ B320ATZ-B360ATZ B400ATZ-B500ATZ	94 95 96
TEAO	Inline Blower	Foot	— Tachometer	B180ATZ-B280ATZ B320ATZ-B360ATZ	97 98
	Piggyback Blower	Foot	Tachometer	B180ATZ-B280ATZ B320ATZ-B360ATZ B400ATZ-B500ATZ	99 100 101
TEDC	Air-to-Air Heat Exchanger	Foot	Tachometer	EB500ATZ FB500ATZ-FB680ATZ	102 103
TEPV	Sep Vent Pipe-In Pipe-Out	Foot	—	B180ATZ-B360ATZ B400ATZ-B840AT	104 105
EXPLOSION-PROOF	Fan Cooled	NEMA A-C C-Face and Foot	Tachometer	X180AC-X280AC	106
		Foot	Tachometer	XB320ATZ-XB360ATZ XB400ATZ-XB500ATZ	107 108
SLIDE BASES	—	—	—	DB180ATZ-UB400ATZ UB500ATZ-UB680ATZ	109 110
EXPLOSION-PROOF TERMINAL BOX	—	—	—	B180ATZ-B360ATZ	111
MILL TYPE TERMINAL BOX	—	—	—	B180ATZ-B360ATZ	111
ALL EXCEPT TEFC and TEAO INLINE	—	—	Brake	B180ATZ-B400ATZ	112

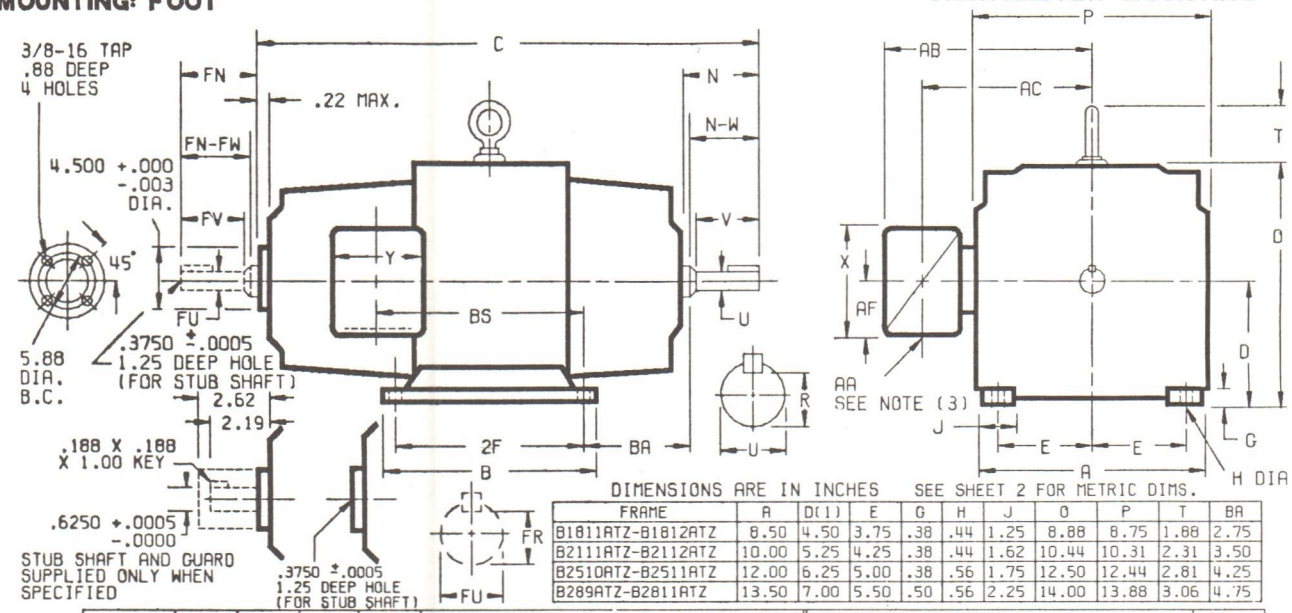
DPG • SPG • TENV
Frames B180ATZ thru B280ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED SPLASHPROOF. TOTALLY ENCLOSED

MOUNTING: FOOT

COOLING: SELF-VENTILATED NON-VENTILATED

ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING



DIMENSIONS ARE IN INCHES SEE SHEET 2 FOR METRIC DIMS.

FRAME	A	D(1)	E	G	H	J	O	P	T	BA
B1811ATZ-B1812ATZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.88	2.75
B2111ATZ-B2112ATZ	10.00	5.25	4.25	.38	.44	1.62	10.44	10.31	2.31	3.50
B2510ATZ-B2511ATZ	12.00	6.25	5.00	.38	.56	1.75	12.50	12.44	2.81	4.25
B289ATZ-B2811ATZ	13.50	7.00	5.50	.50	.56	2.25	14.00	13.88	3.06	4.75

					DRIVE END SHAFT AND KEY							OPPOSITE DRIVE END SHAFT AND KEY (7)						WT.
FRAME	C	B	BS	2F	N	N-W	U(2)	V	R(4)	SQ.	LGTH	FN	FN-FW	FU(2)	FV	FR(4)	SQ.	LGTH.	LBS.
B1811ATZ	23.94	13.75	11.00	12.50	3.00	2.75	1.3750	2.50	1.201	.312	1.75	2.44	2.25	1.1250	2.00	.986	.250	1.38	160
B1812ATZ	25.44	15.25	12.50	14.00	3.00	2.75	1.3750	2.50	1.201	.312	1.75	2.44	2.25	1.1250	2.00	.986	.250	1.38	180
B2111ATZ	27.69	15.25	12.56	14.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	2.94	2.75	1.3750	2.50	1.201	.312	1.75	280
B2112ATZ	30.19	17.25	15.06	16.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	2.94	2.75	1.3750	2.50	1.201	.312	1.75	320
B2510ATZ	31.94	17.50	14.12	16.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	400
B2511ATZ	33.94	19.50	16.12	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	3.50	3.25	1.625	3.00	1.416	.375	2.25	450
B289ATZ	34.06	17.50	14.38	16.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	630
B2810ATZ	35.31	19.50	15.62	18.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	670
B2811ATZ	37.06	21.50	17.38	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	730

STEEL TERMINAL BOX DIMENSIONS

FRAME	MAX. AMPS	STANDARD SIZE AA(5)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(5)	AB	AC	AF	X	Y	PART NUMBER
B180ATZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

CAST IRON TERMINAL BOX DIMENSIONS

FRAME	MAX AMPS	STANDARD SIZE AA(6)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(6)	AB	AC	AF	X	Y	PART NUMBER
B180ATZ	18	3/4	8.12	6.12	2.50	5.00	5.75	705028-2-S	1	8.12	6.12	2.50	5.00	5.75	705028-2-T
	40	1	8.12	6.12	2.50	5.00	5.75	705028-2-T	1 1/2	9.06	6.94	3.00	6.00	7.00	705029-2-R
	96	1 1/2	9.06	6.94	3.00	6.00	7.00	705029-2-R	2	9.06	6.94	3.00	6.00	7.00	705029-2-S
B210ATZ	18	3/4	8.94	6.94	2.50	5.00	5.75	705028-2-S	1	8.94	6.94	2.50	5.00	5.75	705028-2-T
	40	1	8.94	6.94	2.50	5.00	5.75	705028-2-T	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R
	96	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R	2	9.88	7.75	3.00	6.00	7.00	705029-2-S
B250ATZ	18	3/4	10.00	8.00	2.50	5.00	5.75	705028-2-S	1	10.00	8.00	2.50	5.00	5.75	705028-2-T
	40	1	10.00	8.00	2.50	5.00	5.75	705028-2-T	1 1/2	10.94	8.81	3.00	6.00	7.00	705029-2-R
	96	1 1/2	10.94	8.81	3.00	6.00	7.00	705029-2-R	2	10.94	8.81	3.00	6.00	7.00	705029-2-S
	208	2	10.94	8.81	3.00	6.00	7.00	705029-2-S	2 1/2	12.62	8.88	3.62	7.88	9.25	705030-2-R
B280ATZ	18	3/4	10.69	8.69	2.50	5.00	5.75	705028-2-S	1	10.69	8.69	2.50	5.00	5.75	705028-2-T
	40	1	10.69	8.69	2.50	5.00	5.75	705028-2-T	1 1/2	11.62	9.50	3.00	6.00	7.00	705029-2-R
	96	1 1/2	11.62	9.50	3.00	6.00	7.00	705029-2-R	2	11.62	9.50	3.00	6.00	7.00	705029-2-S
	208	2	11.62	9.50	3.00	6.00	7.00	705029-2-S	2 1/2	13.31	9.56	3.62	7.88	9.25	705030-2-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" AND "FU" VARY — UP TO 1.625 DIA. +.0000,-.0005. 1.625 AND LARGER +.000,-.001.

(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.

(4) "R" AND "FR" VARY +.000,-.015.

(5) AA CONDUIT, TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

(6) AA PIPE TAP

(7) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1,W-4,W-5,W-7 OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

DPG • SPG • TENV
Frames B320ATZ thru B360ATZ

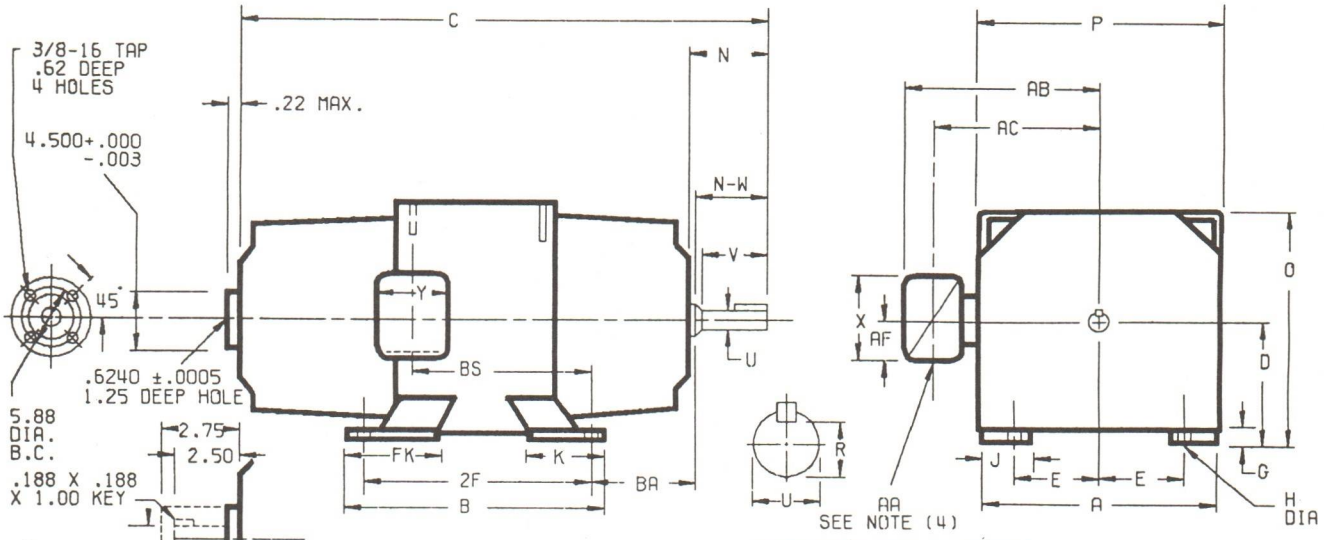
ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF. TOTALLY ENCLOSED

COOLING: SELF-VENTILATED
NON-VENTILATED

MOUNTING: FOOT

ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING

METHOD OF DRIVE: COUPLED OR BELTED



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	BA
B320ATZ-CB320ATZ	16.00	8.00	6.25	.50	.69	2.75	16.25	16.25	5.25
B360ATZ-BB360ATZ	18.00	9.00	7.00	.62	.81	2.88	18.00	18.00	5.88

FRAME	C		B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT. LBS.
	STD.	LG.(3)						N	N-W	U(2)	V	R(7)	SQ.	LGTH	
B327ATZ-BB327ATZ	32.62	35.62	15.88	12.25	14.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	770
B328ATZ-BB328ATZ	33.62	36.62	17.88	13.25	16.00	5.31	6.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	810
AB328ATZ-CB328ATZ	34.62	37.62	17.88	14.25	16.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	850
B366ATZ-BB366ATZ	33.88	37.38	16.00	12.12	14.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	865
B367ATZ-BB367ATZ	35.38	38.88	18.00	13.62	16.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1010
B368ATZ-BB368ATZ	37.88	41.38	20.00	16.12	18.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1180
B369ATZ-BB369ATZ	39.38	42.88	22.00	17.62	20.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1290
B3610ATZ-BB3610ATZ	40.38	43.88	24.00	18.62	22.00	5.50	7.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1370

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B320ATZ	128	2	13.75	10.25	4.25	8.44	7.25	74874-R	3	14.19	10.94	4.25	8.44	7.25	74874-24-R
	185	3	14.19	10.94	4.25	8.44	7.25	74874-24-R	4	15.69	11.62	5.38	10.56	9.00	700308-3-R
	269	4	15.69	11.62	5.38	10.56	9.00	700308-3-R	5	18.69	13.44	7.00	12.75	15.00	76870-9-R
B360ATZ	128	2	14.75	11.25	4.25	8.44	7.25	74874-R	3	15.19	11.94	4.25	8.44	7.25	74874-24-R
	185	3	15.19	11.94	4.25	8.44	7.25	74874-24-R	4	16.69	12.62	5.38	10.56	9.00	700308-3-R
	269	4	16.69	12.62	5.38	10.56	9.00	700308-3-R	5	19.69	14.44	7.00	12.75	15.00	76870-9-R
	500	5	19.69	14.44	7.00	12.75	15.00	76870-9-R	6	19.69	14.44	7.00	12.75	15.00	76870-9-S

CAST IRON TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B320ATZ	128	2	12.50	10.06	3.00	6.00	7.00	75460-T	3	14.19	10.44	3.62	7.88	9.25	76700-RB
	185	3	14.19	10.44	3.62	7.88	9.25	76700-RB	4	15.50	11.31	4.12	9.50	10.50	76708-RR
	269	4	15.50	11.31	4.12	9.50	10.50	76708-RR	5	18.69	13.44	7.00	12.75	15.00	76870-S
B360ATZ	128	2	13.50	11.06	3.00	6.00	7.00	75460-T	3	15.19	11.44	3.62	7.88	9.25	76700-RB
	185	3	15.19	11.44	3.62	7.88	9.25	76700-RB	4	16.50	12.31	4.12	9.50	10.50	76708-RR
	269	4	16.50	12.31	4.12	9.50	10.50	76708-RR	5	19.69	14.44	7.00	12.75	15.00	76870-S
	500	5	19.69	14.44	7.00	12.75	15.00	76870-S	6	19.69	14.44	7.00	12.75	15.00	76870-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000,-.001.
(3) FRAMES PREFIXED BY "BB" OR "CB".
(4) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(5) AA CONDUIT
(6) AA PIPE TAP
(7) "R" VARIES +.000,-.015.

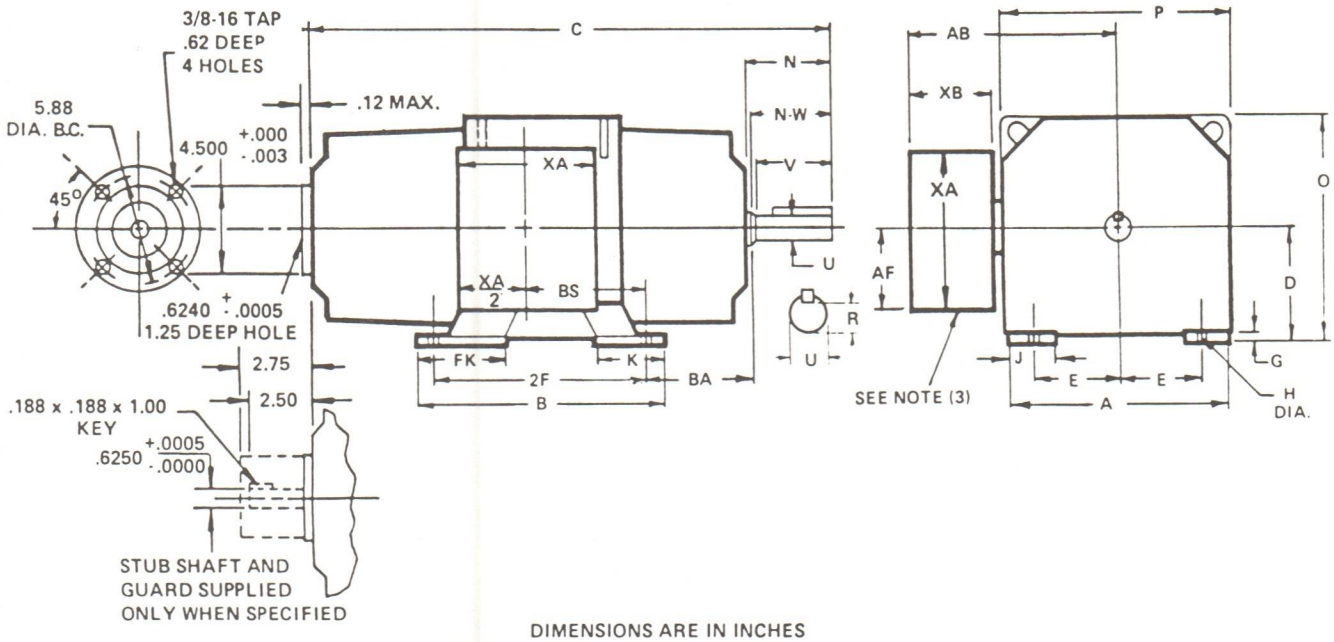
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2,W-1, W-4,W-5,W-7 OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

DPG • SPG • TENV
Frames B400ATZ thru B680ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF, TOTALLY ENCLOSED
MOUNTING: FOOT
ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING

COOLING: SELF-VENTILATED
NON-VENTILATED



DIMENSIONS ARE IN INCHES

FRAME	A	D (1)	E	G	H	J	O	P	AB	AF	BA	XA	XB
B400ATZ - UB400ATZ	19.88	10.00	8.00	.81	1.06	3.25	20.25	20.38	22.88	7.00	6.62	14.00	12.00
B500ATZ - UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	25.75	25.44	7.00	8.50	14.00	12.00
B580ATZ - UB580ATZ	28.50	14.50	11.50	1.25	1.44	4.50	29.25	29.50	27.75	9.50	10.00	19.00	12.00
B680ATZ	33.50	17.00	13.50	1.50	1.44	5.00	34.50	35.00	30.25	9.50	11.50	19.00	12.00

FRAME	DUTY	C	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT. (LBS.)
								N	N-W	U (2)	V	R (4)	SQ.	LGTH	
UB408ATZ	BELTED	44.50	22.50	12.50	20.00	6.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	1815
B408ATZ	COUPLED	43.75	22.50	12.50	20.00	6.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	1810
UB409ATZ	BELTED	47.75	24.50	15.75	22.00	6.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2090
B409ATZ	COUPLED	47.00	24.50	15.75	22.00	6.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2085
UB506ATZ	BELTED	50.62	22.50	12.12	20.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	2600
B506ATZ	COUPLED	49.62	22.50	12.12	20.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	2570
UB507ATZ	BELTED	53.62	24.50	15.12	22.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3030
B507ATZ	COUPLED	52.62	24.50	15.12	22.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3000
UB508ATZ	BELTED	56.62	27.50	18.12	25.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3425
B508ATZ	COUPLED	55.62	27.50	18.12	25.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3395
UB587ATZ	BELTED	58.19	28.50	15.62	25.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	4555
B587ATZ	COUPLED	58.19	28.50	15.62	25.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	4555
UB588ATZ	BELTED	61.19	31.50	18.62	28.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5140
B588ATZ	COUPLED	61.19	31.50	18.62	28.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5140
UB589ATZ	BELTED	63.69	35.50	21.12	32.00	8.00	10.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5540
B589ATZ	COUPLED	63.69	35.50	21.12	32.00	8.00	10.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5540
B686ATZ	COUPLED	65.75	31.50	18.38	28.00	9.00	9.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	6880
B687ATZ	COUPLED	68.25	35.50	20.88	32.00	9.00	11.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	7550
B688ATZ	COUPLED	72.75	39.50	25.38	36.00	9.00	11.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	8710

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES +.000 –.001

(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.

(4) "R" VARIES +.000 –.015

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

D/S 609900-5 • August 28, 1980

DPG • SPG • TENV
Frames DB180ATY thru DB180ATCZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF. TOTALLY ENCLOSED
MOUNTING: FOOT. "C" FACE
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: SELF-VENTILATED
NON-VENTILATED
ACCESSORIES: PROVISIONS FOR
TACHOMETER MOUNTING
ONLY WHEN SPECIFIED

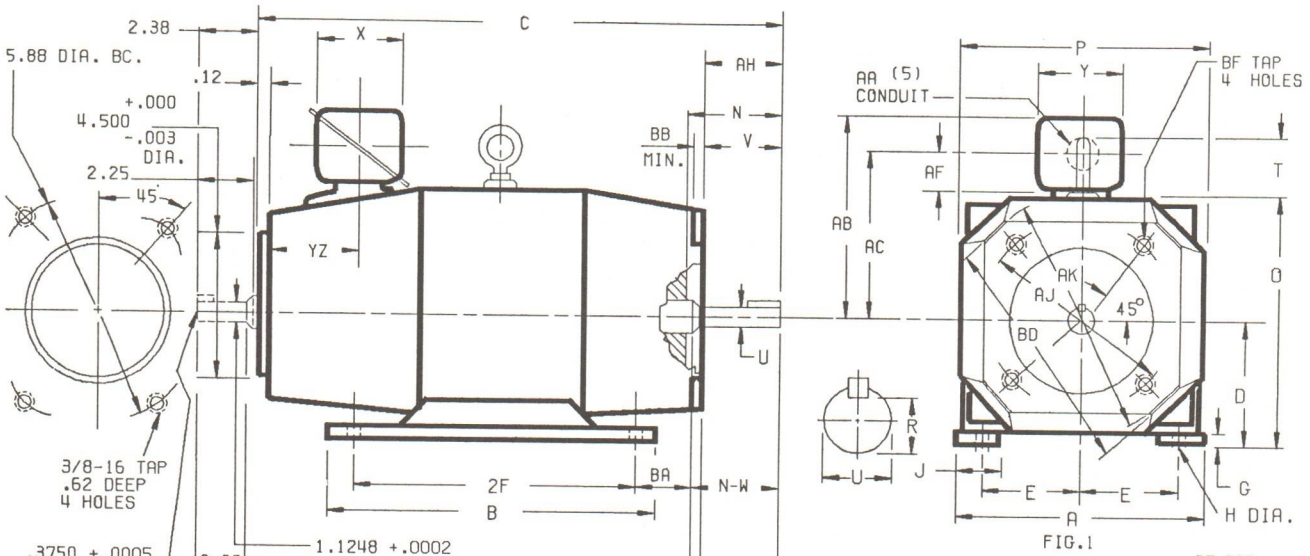
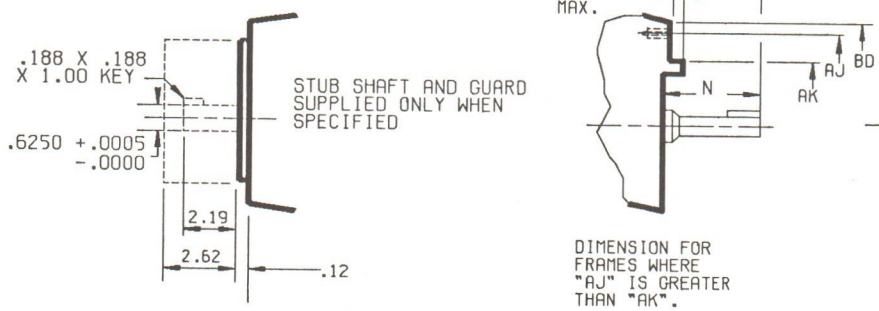


FIG.1



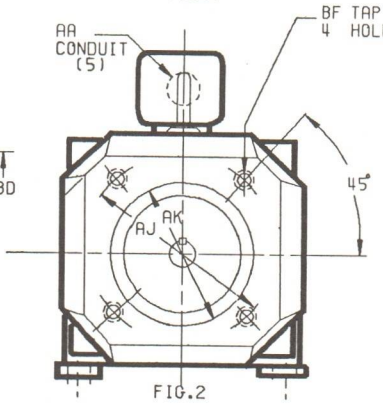


FIG.2

DIMENSIONS ARE IN INCHES

SYM	FIG.	FRAME	A	D(1)	E	G	H	J	O	P	T	BA	BB	BD	BF	MIN. TAP DEPTH	AH	AJ	AK(4)	A.C.SHAFT EXT. REF.	YZ
A	2	DB1810ATY	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.84	2.75	.12	6.88	3/8-16	.62	2.12	5.875	4.500	140TC EXT.	3.25
B	1	DB1810ATCZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.84	2.75	.25	8.75	1/2-13	1.00	2.62	7.250	8.500	180TC EXT.	3.25
C	1	DB1811ATCZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.84	2.75	.25	8.75	1/2-13	1.00	2.62	7.250	8.500	180TC EXT.	3.25
D	2	DB1810ATY	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.84	2.75	.12	6.88	3/8-16	.62	2.75	5.875	4.500	———	3.25

SYM	FIG	FRAME	C	B	2F	DRIVE END SHAFT AND KEY							TERMINAL BOX DIMENSIONS						WT LBS.
						N	N-W	U(2)	V	R(3)	SQ.	LGTH	AA	AB	AC	AF	X	Y	
A	2	DB1810ATY	19.53	12.25	11.00	2.44	2.19	.8750	2.00	.771	.188	1.38	3/4	6.88	5.56	1.06	3.38	3.88	120
B	1	DB1810ATCZ	20.16	12.25	11.00	3.06	2.81	1.1250	2.62	.986	.250	1.81	3/4	6.88	5.56	1.06	3.38	3.88	120
C	1	DB1811ATCZ	21.66	13.75	12.50	3.06	2.81	1.1250	2.62	.986	.250	1.81	3/4	6.88	5.56	1.06	3.38	3.88	130
D	2	DB1810ATY	20.16	12.25	11.00	3.06	2.81	1.1250	2.62	.986	.250	1.81	3/4	6.88	5.56	1.06	3.38	3.88	120

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.0000,-.0005.
(3) "R" VARIES +.000,-.015.
(4) "AK" VARIES +.000,-.003.
FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.

(5) TERMINAL BOX CAN BE TURNED TO REPOSITION CONDUIT CONNECTION.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

DPG • SPG • TENV
Frames B180ATCZ thru B280ATCZ

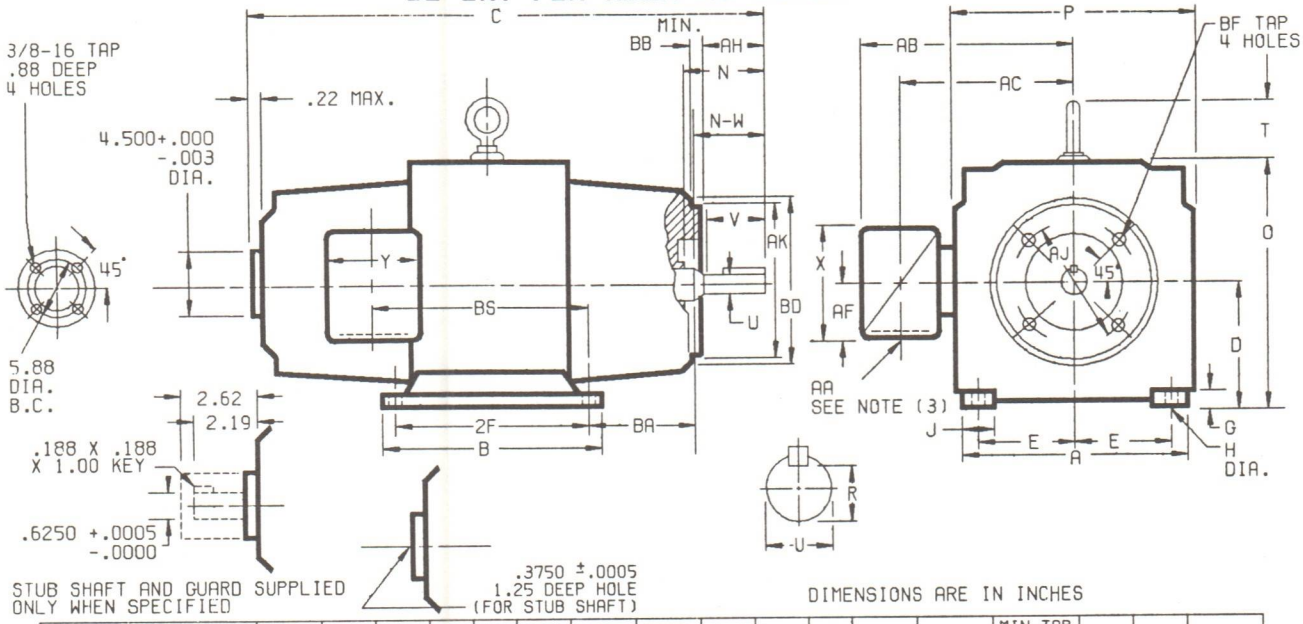
ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF. TOTALLY ENCLOSED

COOLING: SELF-VENTILATED
NON-VENTILATED

MOUNTING: FOOT. NEMA AC "C" FACE

ACCESSORIES: PROVISION FOR
TACHOMETER MOUNTING

METHOD OF DRIVE: COUPLED OR BELTED
BE EXT PER NEMA AC MOTOR



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	T	BA	BB	BD	BF	MIN.TAP DEPTH	AH	AJ	AK(6)
B1811ATCZ-B1812ATCZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.88	2.75	.25	8.75	1/2-13	.75	2.62	7.25	8.500
B2111ATCZ-B2112ATCZ	10.00	5.25	4.25	.38	.44	1.62	10.44	10.31	2.31	3.50	.25	8.75	1/2-13	.75	3.12	7.25	8.500
B2510ATCZ-B2511ATCZ	12.00	6.25	5.00	.38	.56	1.75	12.50	12.44	2.81	4.25	.25	8.75	1/2-13	.75	3.75	7.25	8.500
B2810ATCZ-B2811ATCZ	13.50	7.00	5.50	.50	.56	2.25	14.00	13.88	3.06	4.75	.25	11.25	1/2-13	.75	4.38	9.00	10.500

FRAME	C	B	BS	2F	DRIVE END SHAFT AND KEY N	N-W	U(2)	V	R(4)	SQ.	LGTH	REMARKS
B1811ATCZ	24.06	13.75	11.00	12.50	3.12	2.88	1.1250	2.62	.986	.250	1.75	18OT AC SHAFT EXTENSION
B1812ATCZ	25.56	15.25	12.50	14.00	3.12	2.88	1.1250	2.62	.986	.250	1.75	
B2111ATCZ	27.81	15.25	12.56	14.00	3.62	3.38	1.3750	3.12	1.201	.312	2.38	21OT AC SHAFT EXTENSION
B2112ATCZ	30.31	17.25	15.06	16.00	3.62	3.38	1.3750	3.12	1.201	.312	2.38	
B2510ATCZ	32.19	17.50	14.12	16.00	4.25	4.00	1.625	3.75	1.416	.375	2.88	25OT AC SHAFT EXTENSION
B2511ATCZ	34.19	19.50	16.12	18.00	4.25	4.00	1.625	3.75	1.416	.375	2.88	
B289ATCZ	34.44	17.50	14.38	16.00	4.88	4.62	1.875	4.38	1.591	.500	3.25	28OT AC SHAFT EXTENSION
B2810ATCZ	35.69	19.50	15.62	18.00	4.88	4.62	1.875	4.38	1.591	.500	3.25	
B2811ATCZ	37.44	21.50	17.38	20.00	4.88	4.62	1.875	4.38	1.591	.500	3.25	

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX AMPS	STANDARD SIZE AA(5)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(5)	AB	AC	AF	X	Y	PART NUMBER
B180ATCZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATCZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATCZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATCZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES — UP TO 1.625 DIA. +.0000, -.0005.
1.625 AND LARGER +.000, -.001.

(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.

(4) "R" VARIES +.000, -.015.

(5) TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

(6) "AK" VARIES +.000,-.005
FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

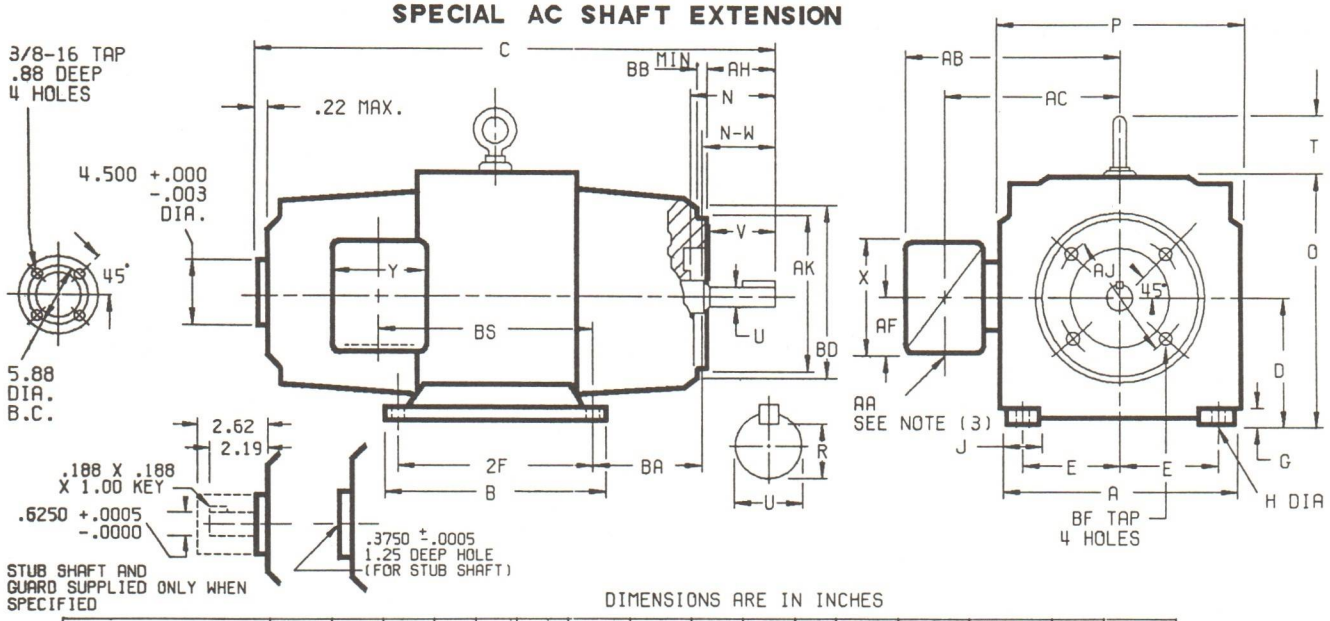
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

DPG • SPG • TENV
Frames B210ATCZ thru B250ATCZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF. TOTALLY ENCLOSED
MOUNTING: FOOT. NEMA "C" FACE
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: SELF-VENTILATED
NON-VENTILATED
ACCESSORIES: PROVISION FOR
TACHOMETER MOUNTING

SPECIAL AC SHAFT EXTENSION



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	T	BA	BB	BD	BF	MIN.TAP DEPTH	AJ	AK(7)
B2111ATCZ-B2112ATCZ	10.00	5.25	4.25	.38	.44	1.62	10.44	10.31	2.31	3.50	.25	8.75	1/2-13	.75	7.25	8.500
B2510ATCZ-B2511ATCZ	12.00	6.25	5.00	.38	.56	1.75	12.50	12.44	2.81	4.25	.25	8.75	1/2-13	.75	7.25	8.500

FRAME	C	B	AH	BS	2F	DRIVE END SHAFT AND KEY							WT LB	REMARKS
						N	N-W	U(2)	V	R(4)	SQ.	LGTH		
B2111ATCZ	27.31	15.25	2.62	12.56	14.00	3.12	2.88	1.1250	2.62	.986	.250	1.75	285	180T AC SHAFT EXT.
B2112ATCZ	29.81	17.25	2.62	15.06	16.00	3.12	2.88	1.1250	2.62	.986	.250	1.75	325	
B2510ATCZ	31.56	17.50	3.12	14.12	16.00	3.62	3.38	1.3750	3.12	1.201	.312	2.38	405	210T AC SHAFT EXT.
B2511ATCZ	33.56	19.50	3.12	16.12	18.00	3.62	3.38	1.3750	3.12	1.201	.312	2.38	455	

STEEL TERMINAL BOX DIMENSIONS

FRAME	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B210ATCZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATCZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R

CAST IRON TERMINAL BOX DIMENSIONS

FRAME	MAX AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B210ATCZ	18	3/4	8.94	6.94	2.50	5.00	5.75	705028-2-S	1	8.94	6.94	2.50	5.00	5.75	705028-2-T
	40	1	8.94	6.94	2.50	5.00	5.75	705028-2-T	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R
	96	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R	2	9.88	7.75	3.00	6.00	7.00	705029-2-S
B250ATCZ	18	3/4	10.00	8.00	2.50	5.00	5.75	705028-2-S	1	10.00	8.00	2.50	5.00	5.75	705028-2-T
	40	1	10.00	8.00	2.50	5.00	5.75	705028-2-T	1 1/2	10.94	8.81	3.00	6.00	7.00	705029-2-R
	96	1 1/2	10.94	8.81	3.00	6.00	7.00	705029-2-R	2	10.94	8.81	3.00	6.00	7.00	705029-2-S
	208	2	10.94	8.81	3.00	6.00	7.00	705029-2-S	2 1/2	12.62	8.88	3.62	7.88	9.25	705030-2-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES — UP TO 1.625 DIA. +.0000,-.0005. / 1.625 AND LARGER +.000,-.001.

(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP,SIDES,OR BOTTOM.

(4) "R" VARIES +.000,-.015.

(5) AA CONDUIT, TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

(6) AA PIPE TAP

(7) "AK" VARIES +.000,-.005. FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1,W-4,W-5,W-7 OR C-1 MOUNTING OR TOP MOUNTED WHEN SPECIFIED

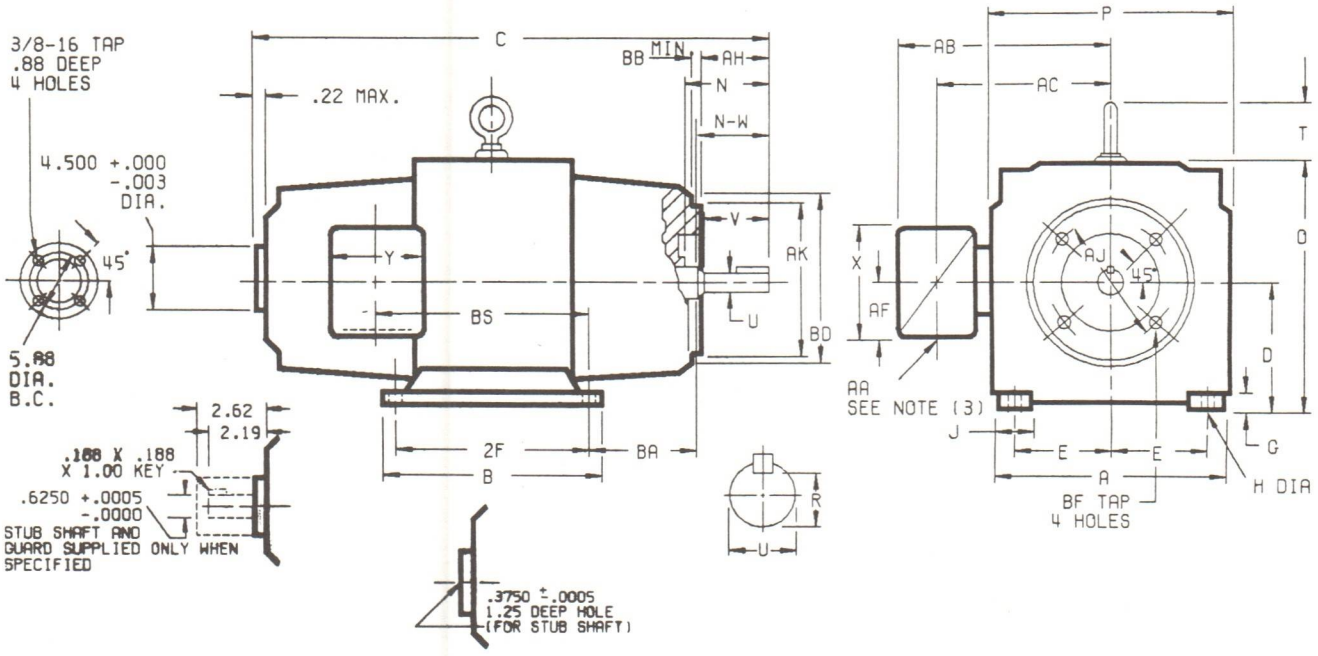
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

DPG • SPG • TENV
Frames B180ATCZ thru B210ATCZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF. TOTALLY ENCLOSED
MOUNTING: FOOT. NEMA "C" FACE
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: SELF-VENTILATED
NON-VENTILATED
ACCESSORIES: PROVISION FOR
TACHOMETER MOUNTING

SPECIAL AC SHAFT EXTENSION



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	T	BA	BB	BD	BF	MIN.TAP DEPTH	AJ	AK(7)
B1811ATCZ-B1812ATCZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.88	2.75	.25	8.75	1/2-13	.75	7.25	8.500
B2111ATCZ-B2112ATCZ	10.00	5.25	4.25	.38	.44	1.62	10.44	10.31	2.31	3.50	.25	8.75	1/2-13	.75	7.25	8.500

FRAME	C	B	AH	BS	2F	DRIVE END SHAFT AND KEY							WT LB	REMARKS
						N	N-W	U(2)	V	R(4)	SQ.	LGTH		
B1811ATCZ	24.56	13.75	3.12	11.00	12.50	3.62	3.38	1.3750	3.12	1.201	.312	2.38	175	210T AC SHAFT EXT.
B1812ATCZ	26.06	15.25	3.12	12.50	14.00	3.62	3.38	1.3750	3.12	1.201	.312	2.38	185	
B2111ATCZ	28.44	15.25	3.75	12.56	14.00	4.25	4.00	1.6250	3.75	1.416	.375	2.88	285	250T AC SHAFT EXT.
B2112ATCZ	30.94	17.25	3.75	15.06	16.00	4.25	4.00	1.6250	3.75	1.416	.375	2.88	325	

STEEL TERMINAL BOX DIMENSIONS

FRAME	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B180ATCZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATCZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R

CAST IRON TERMINAL BOX DIMENSIONS

FRAME	MAX AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B180ATCZ	18	3/4	8.12	6.12	2.50	5.00	5.75	705028-2-S	1	8.12	6.12	2.50	5.00	5.75	705028-2-T
	40	1	8.12	6.12	2.50	5.00	5.75	705028-2-T	1 1/2	9.06	6.94	3.00	6.00	7.00	705029-2-R
	96	1 1/2	9.06	6.94	3.00	6.00	7.00	705029-2-R	2	9.06	6.94	3.00	6.00	7.00	705029-2-S
B210ATCZ	18	3/4	8.94	6.94	2.50	5.00	5.75	705028-2-S	1	8.94	6.94	2.50	5.00	5.75	705028-2-T
	40	1	8.94	6.94	2.50	5.00	5.75	705028-2-T	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R
	96	1 1/2	9.88	7.75	3.00	6.00	7.00	705029-2-R	2	9.88	7.75	3.00	6.00	7.00	705029-2-S

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES — UP TO 1.625 DIA. +.0000,-.0005.
1.625 AND LARGER +.000,-.001.

(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP,SIDES,OR BOTTOM.

(4) "R" VARIES +.000,-.015.

(5) AA CONDUIT, TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

(6) AA PIPE TAP

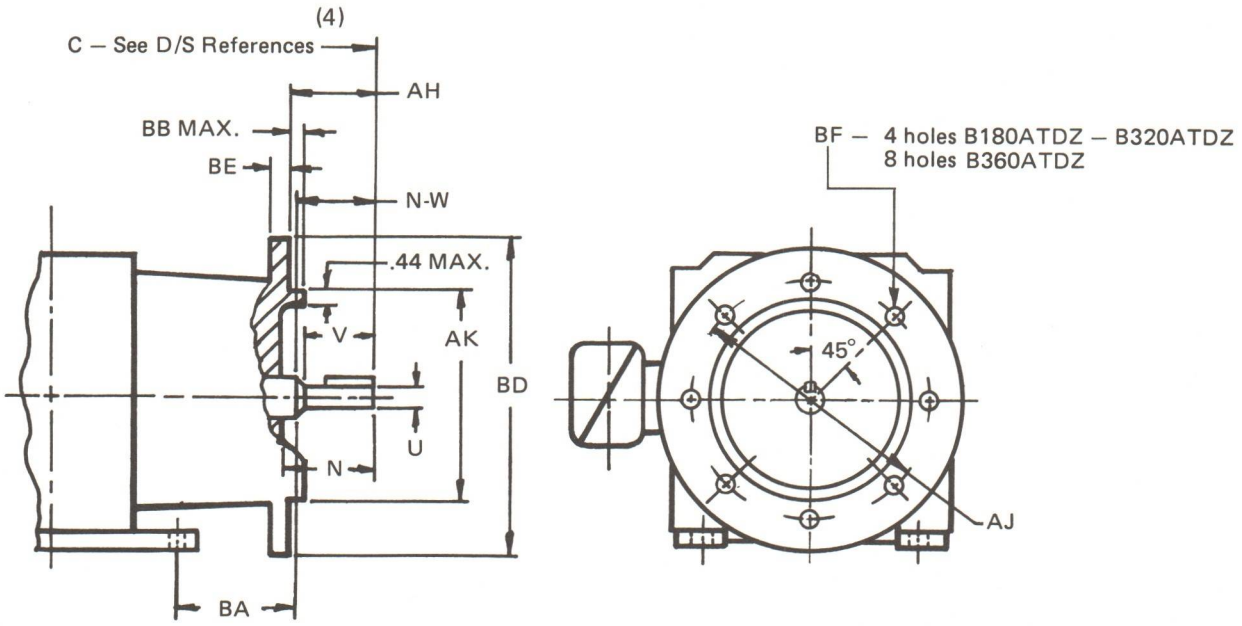
(7) "AK" VARIES +.000,-.005.
FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1,W-4,W-5,W-7 OR C-1 MOUNTING OR TOP MOUNTED WHEN SPECIFIED

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

D/S 609900-116 • October 31, 1978

MOUNTING: FOOT • NEMA D-FLANGE
Frames B180ATDZ thru B360ATDZ



Frames B180ATDZ thru B280ATDZ

(DIMENSION SHEET REFERENCES)

DPG, SPG, TENV – D/S 609900-16
TEFC – D/S 609901-173
TEAO INLINE – D/S 609901-197
DPFV with Filter – D/S 609902-58
TE, SEP VENT – D/S 609903-68

FRAME	BA	BB	BD	BF	BE	AH	AJ	AK(1)	DRIVE END SHAFT AND KEY						
									N	N-W	U(2)	V	R(3)	SQ.	LGTH
B1811ATDZ-B1812ATDZ	2.75	.19	11.00	.53	.50	2.75	10.00	9.000	3.00	2.75	1.3750	2.50	1.201	.312	1.75
B2111ATDZ-B2112ATDZ	3.50	.19	14.00	.81	.75	3.25	12.50	11.000	3.50	3.25	1.625	3.00	1.416	.375	2.25
B2510ATDZ-B2511ATDZ	4.25	.19	18.00	.81	.75	3.75	16.00	14.000	4.00	3.75	1.875	3.50	1.591	.500	2.50
B289ATDZ-B2811ATDZ	4.75	.19	18.00	.81	.75	4.25	16.00	14.000	4.50	4.25	2.125	4.00	1.845	.500	3.00

Frames B320ATDZ thru B360ATDZ

(DIMENSION SHEET REFERENCES)

DPG, SPG, TENV – D/S 609900-10
TEFC – D/S 609901-107
DPFV with Filter – D/S 609902-136
TE, SEP VENT – D/S 609903-332

FRAME	BA	BB	BE	BD	BF	AH	AJ	AK(1)	DRIVE END SHAFT AND KEY						
									N	N-W	U(2)	V	R(3)	SQ.	LGTH
B320ATDZ-CB320ATDZ	5.25	.19	.75	18.00	.81	4.75	16.000	14.000	5.00	4.75	2.375	4.50	2.021	.625	3.50
B360ATDZ-BB360ATDZ	5.88	.19	1.00	22.00	.81	5.25	20.000	18.000	5.50	5.25	2.625	5.00	2.275	.625	4.00

(1) "AK" VARIES +.000, –.005
FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.

(2) "U" VARIES { UP TO 1.625 DIA. +.000, –.0005
1.625 AND LARGER +.000, – .001

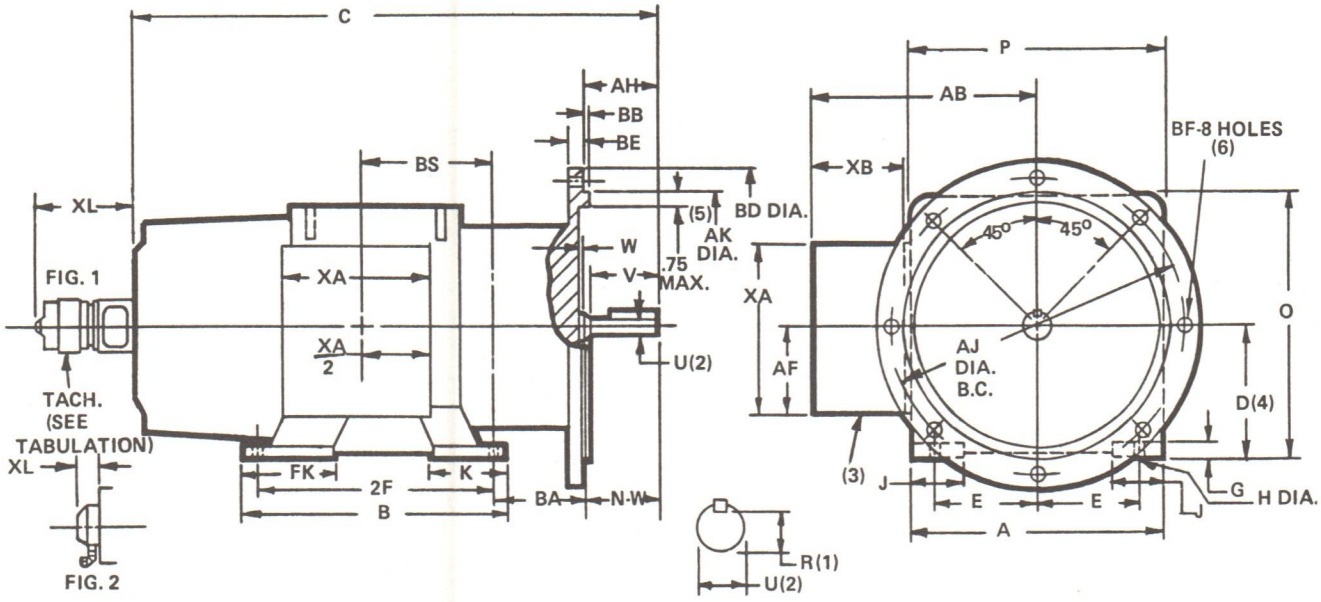
(3) "R" VARIES +.000, –.015

(4) "C" DIMENSION SAME AS STANDARD FOOT MOUNTED MOTOR

NEMA D-FLANGE
Frames B400ATDZ thru B500ATDZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF
MOUNTING: NEMA "D" FLANGE
ACCESSORIES: FLANGE MOUNTED TACHOMETERS

COOLING: SELF-VENTILATED
NON-VENTILATED



DIMENSIONS ARE IN INCHES

FRAME	A	D	E	G	H	J	O	P	AB	AF	BA	XA	XB	BB	BE	BD	AK	AJ	BF	W	AH
B400ATDZ	19.88	10.00	8.00	.81	1.06	3.25	20.25	20.38	22.88	7.00	6.62	14.00	12.00	.19	1.00	24.00	18.00	22.00	.81	.38	5.75
B500ATDZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	25.75	25.44	7.00	8.50	14.00	12.00	.19	1.00	32.00	28.00	30.00	.81	.38	7.25

FRAME	DUTY	C	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY						WT.
								U	V	N-W	R	SQ.	LGTH	(LBS.)
B408ATDZ	COUPLED	43.75	22.50	12.50	20.00	6.00	6.00	2.875	5.50	5.75	2.450	.750	4.25	1910
B409ATDZ	COUPLED	47.00	24.50	15.75	22.00	6.00	6.00	2.875	5.50	5.75	2.450	.750	4.25	2185
B506ATDZ	COUPLED	49.62	22.50	12.12	20.00	6.50	6.50	3.625	7.00	7.25	3.134	.875	5.75	2830
B507ATDZ	COUPLED	52.62	24.50	15.12	22.00	6.50	6.50	3.625	7.00	7.25	3.134	.875	5.75	3250
B508ATDZ	COUPLED	55.62	27.50	18.12	25.00	6.50	6.50	3.625	7.00	7.25	3.134	.875	5.75	3645

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

(1) THIS DIMENSION VARIES +.000 -.015
(2) THIS DIMENSION VARIES +.000 -.001
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.
(4) THIS DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(5) THIS DIMENSION VARIES +.000 -.005
FACE RUNOUT AND ECCENTRICITY .007 MAX. T.I.R.
(6) RECOMMENDED BOLT-3/4 DIA. x 2-1/2 LG.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

D/S 609900-53 • March 21, 1979

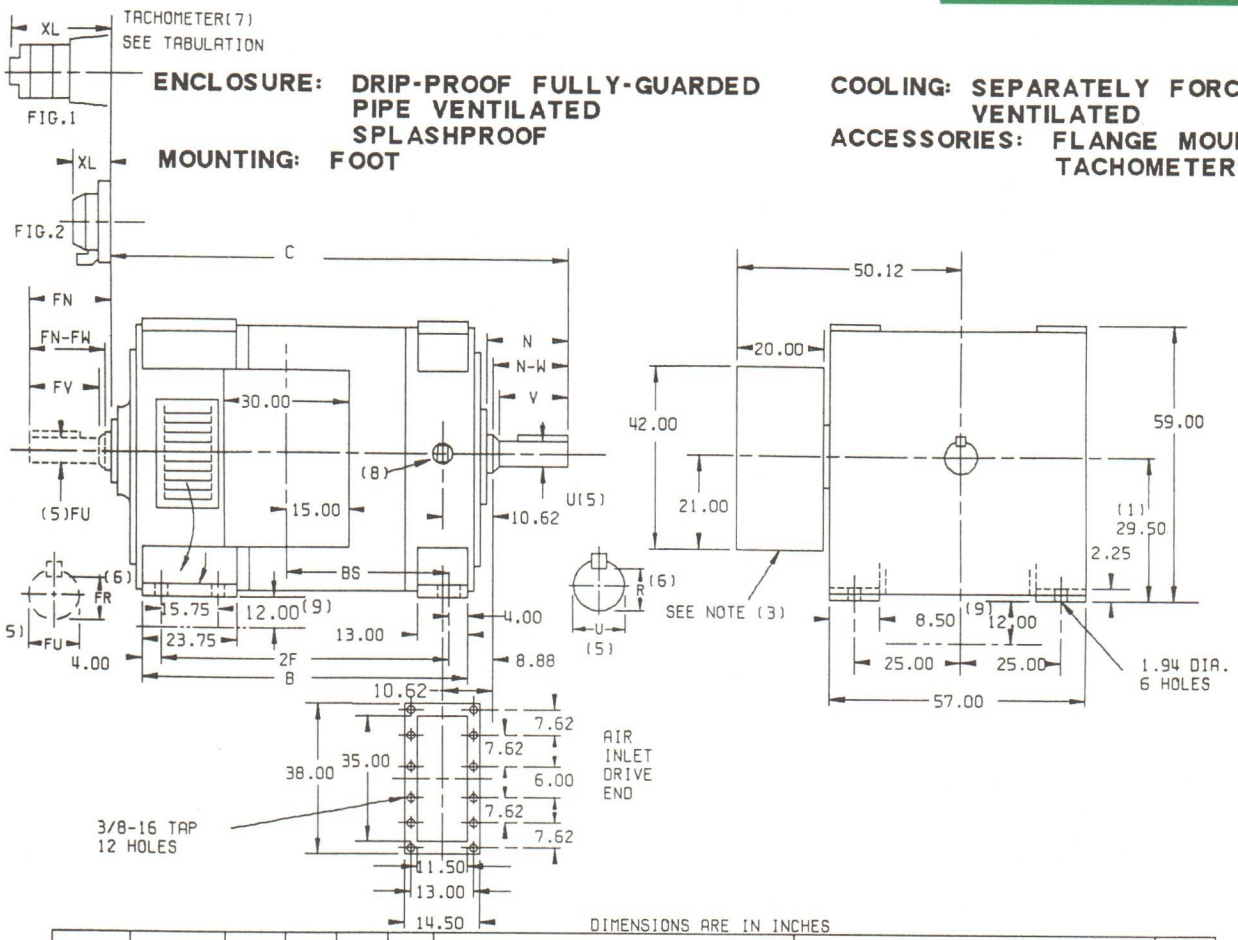
DPG SEP VENT • SPG SEP VENT
Frames B1200AT

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
PIPE VENTILATED
SPLASHPROOF

MOUNTING: FOOT

COOLING: SEPARATELY FORCE VENTILATED

ACCESSORIES: FLANGE MOUNTED TACHOMETERS



DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	DRIVE END SHAFT AND KEY							(4)OPPOSITE DRIVE END SHAFT AND KEY							WT.
						N	N-W	U(5)	V	R(6)	RECT.	LGTH.	FN	FN-FW	FU(5)	FV	FR(6)	RECT.	LGTH.	(LBS.)
B1202AT	COUPLED	88.25	60.50	24.75	52.50	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	20920
B1202ATZ	COUPLED(2)	90.25	60.50	24.75	52.50	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	21200
B1204AT	COUPLED	92.25	64.50	28.75	56.50	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	23320
B1204ATZ	COUPLED(2)	94.25	64.50	28.75	56.50	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	23600
B1205AT	COUPLED	95.50	67.75	32.00	59.75	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	25135
B1205ATZ	COUPLED(2)	97.50	67.75	32.00	59.75	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	25415
B1206AT	COUPLED	97.75	70.00	34.25	62.00	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	26585
B1206ATZ	COUPLED(2)	101.75	70.00	34.25	62.00	19.00	18.50	9.250	18.25	8.203	2.500x 1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	27865
B1207AT	COUPLED	100.50	72.75	37.00	64.75	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	28105
B1207ATZ	COUPLED(2)	104.50	72.75	37.00	64.75	19.00	18.50	9.250	18.25	8.203	2.500x 1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	28285
B1208AT	COUPLED	105.00	75.25	39.50	67.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	29875
B1208ATZ	COUPLED(2)	107.00	75.25	39.50	67.25	19.00	18.50	9.250	18.25	8.203	2.500x 1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	30035
B1209AT	COUPLED	107.75	78.00	42.25	70.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	31315
B1209ATZ	COUPLED(2)	109.75	78.00	42.25	70.00	19.00	18.50	9.250	18.25	8.203	2.500x 1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x 1.500	12.25	31475

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001.
(6) "R" AND "FR" VARY +.000 -.015.
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.
(8) DIFFERENTIAL PRESSURE SWITCH.
(9) DO NOT ENCROACH ON AIR DISCHARGE SPACE BETWEEN FEET, OPPOSITE DRIVE END.

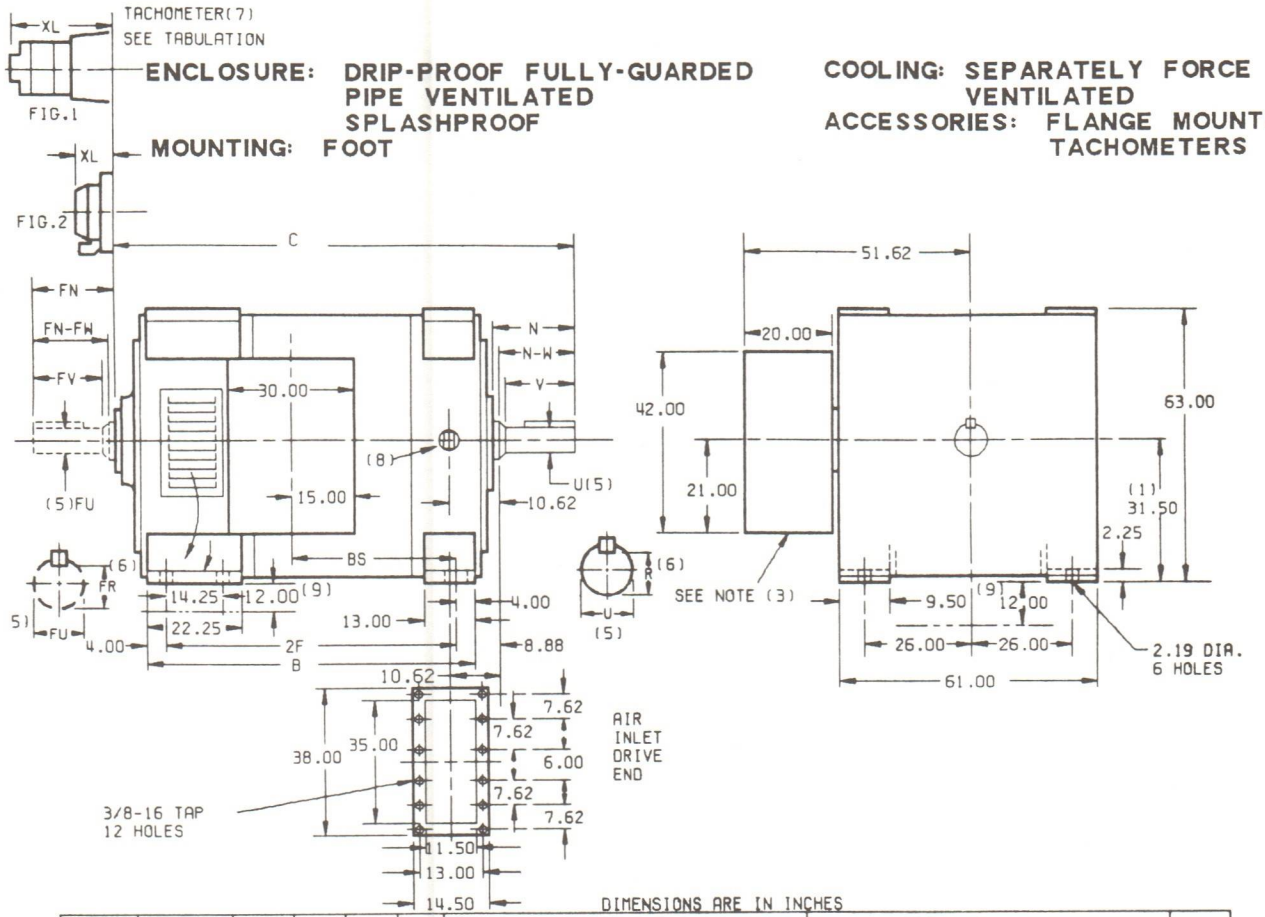
TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1

TACHOMETER	XL	WT. LBS.	FIG.
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED. FOR NON-STANDARD MOUNTING CONSULT FACTORY.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

DPG SEP VENT • SPG SEP VENT
Frames B1400AT



DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	DRIVE END SHAFT AND KEY							(4)OPPOSITE DRIVE END SHAFT AND KEY							WT.
						N	N-W	U(5)	V	R(6)	RECT.	LGTH.	FN	FN-FW	FU(5)	FV	FR(6)	RECT.	LGTH.	(LBS.)
B1401AT	COUPLED	89.25	58.75	24.50	50.75	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	22315
B1401ATZ	COUPLED(2)	92.25	58.75	24.50	50.75	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	22485
B1403AT	COUPLED	93.25	62.75	28.50	54.75	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	24795
B1403ATZ	COUPLED(2)	96.25	62.75	28.50	54.75	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	24965
B1405AT	COUPLED	98.25	67.75	33.50	59.75	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	28095
B1405ATZ	COUPLED(2)	101.25	67.75	33.50	59.75	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	28265
B1406AT	COUPLED	101.00	70.50	36.25	62.50	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	28805
B1406ATZ	COUPLED(2)	104.00	70.50	36.25	62.50	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	28975
B1407AT	COUPLED	103.25	72.75	38.50	64.75	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	31205
B1407ATZ	COUPLED(2)	106.25	72.75	38.50	64.75	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	31375
B1408AT	COUPLED	105.00	74.50	40.25	66.50	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	32170
B1408ATZ	COUPLED(2)	108.00	74.50	40.25	66.50	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	32340
B1409AT	COUPLED	108.75	78.25	44.00	70.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	34695
B1409ATZ	COUPLED(2)	111.75	78.25	44.00	70.25	20.00	19.50	9.750	19.25	8.712	2.500×1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000×1.500	14.25	34865

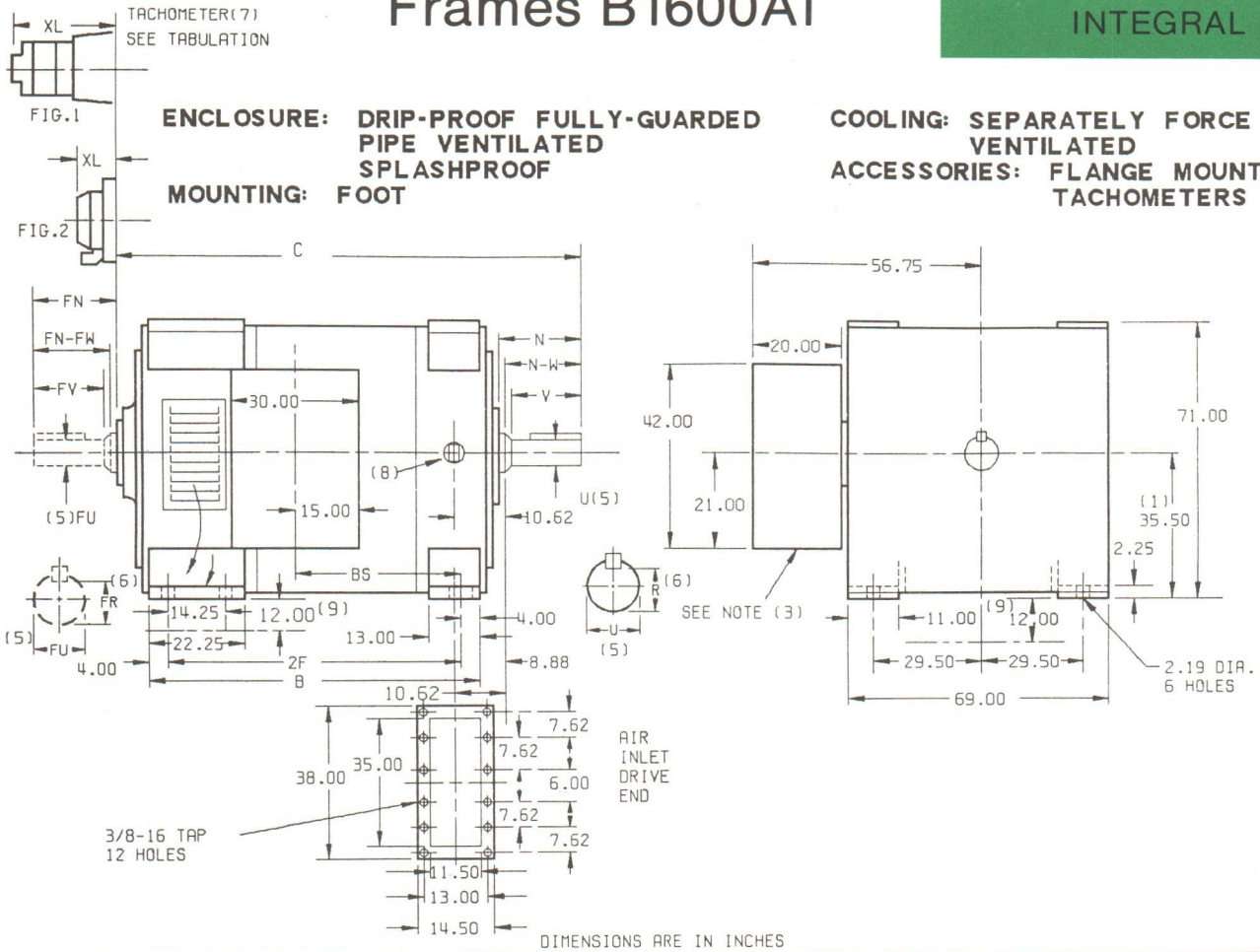
(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001.
(6) "R" AND "FR" VARY +.000 -.015.
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.
(8) DIFFERENTIAL PRESSURE SWITCH.
(9) DO NOT ENCROACH ON AIR DISCHARGE SPACE BETWEEN FEET, OPPOSITE DRIVE END.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1

TACHOMETER	XL	WT. LBS.	FIG.
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED. FOR NON-STANDARD MOUNTING CONSULT FACTORY.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

DPG SEP VENT • SPG SEP VENT
Frames B1600AT



ENCLOSURE: DRIP-PROOF FULLY-GUARDED PIPE VENTILATED SPLASHPROOF

MOUNTING: FOOT

COOLING: SEPARATELY FORCE VENTILATED

ACCESSORIES: FLANGE MOUNTED TACHOMETERS

DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	DRIVE END SHAFT AND KEY							(4)OPPOSITE DRIVE END SHAFT AND KEY							WT.
						N	N-W	U(5)	V	R(6)	RECT.	LGTH.	FN	FN-FW	FU(5)	FV	FR(6)	RECT.	LGTH.	(LBS.)
B1601AT	COUPLED	97.62	61.25	27.00	53.25	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	32.670
B1601ATZ	COUPLED(2)	101.12	61.25	27.00	53.25	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	33.000
B1602AT	COUPLED	101.38	65.00	30.75	57.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	35.925
B1602ATZ	COUPLED(2)	104.88	65.00	30.75	57.00	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	36.255
B1603AT	COUPLED	105.62	69.25	35.00	61.25	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	39.540
B1603ATZ	COUPLED(2)	109.12	69.25	35.00	61.25	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	39.870
B1604AT	COUPLED	109.38	73.00	38.75	65.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	42.720
B1604ATZ	COUPLED(2)	112.88	73.00	38.75	65.00	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	43.050
B1605AT	COUPLED	112.38	76.00	41.75	68.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	45.255
B1605ATZ	COUPLED(2)	115.88	76.00	41.75	68.00	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	45.585
B1606AT	COUPLED	114.38	78.00	43.75	70.00	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	46.955
B1607AT	COUPLED	116.88	80.50	46.25	72.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	49.075
B1608AT	COUPLED	118.88	82.50	48.25	74.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	22.00	21.50	10.750	21.25	9.728	2.500 X 1.750	18.50	50.765
B1609AT	COUPLED	126.38	86.50	52.25	78.50	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	NOT AVAILABLE-CONSULT FACTORY							53.920
B1610AT	COUPLED	130.38	90.50	56.25	82.50	25.50	25.00	12.500	24.75	11.317	3.000 X 2.000	22.00	NOT AVAILABLE-CONSULT FACTORY							57.390

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001.
(6) "R" AND "FR" VARY +.000 -.015.
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.
(8) DIFFERENTIAL PRESSURE SWITCH.
(9) DO NOT ENCROACH ON AIR DISCHARGE SPACE BETWEEN FEET, OPPOSITE DRIVE END.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1

TACHOMETER	XL	WT. LBS.	FIG.
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

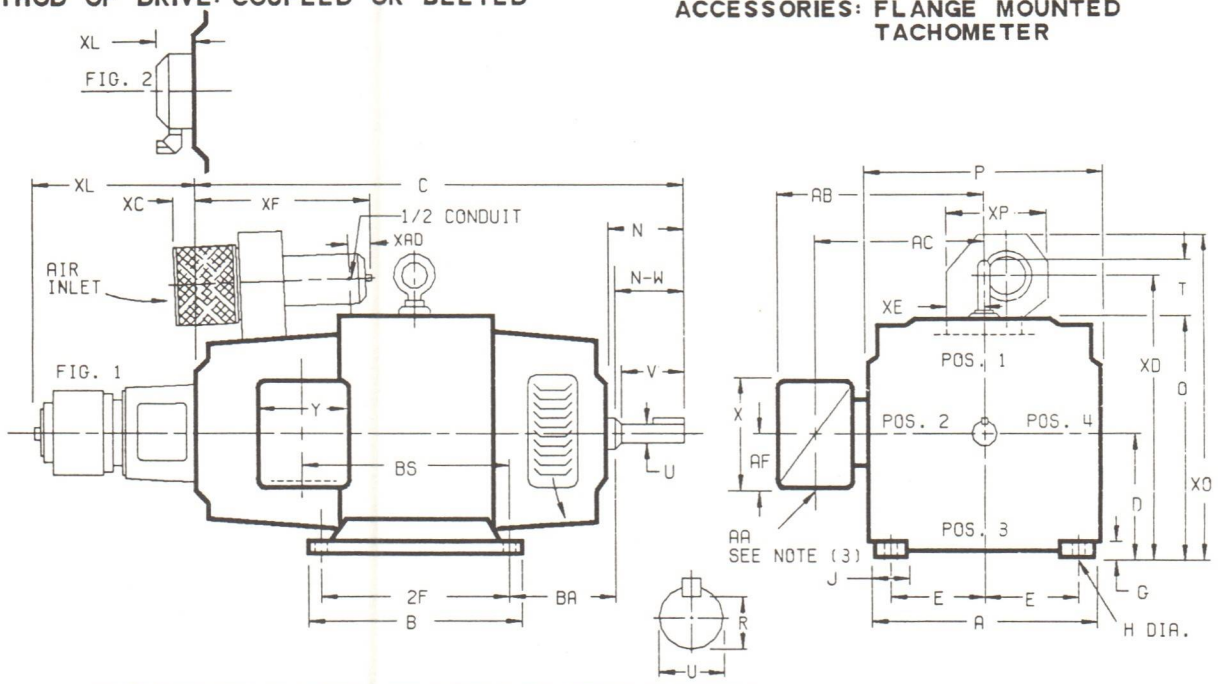
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED. FOR NON-STANDARD MOUNTING CONSULT FACTORY.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

DPG FV • SPG FV
Frames B180ATZ thru B280ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: FORCE VENTILATED
AIR FILTERED WITH
INTEGRAL BLOWER
AND MOTOR
ACCESSORIES: FLANGE MOUNTED
TACHOMETER



DIMENSIONS ARE IN INCHES SEE SHEET 2 FOR METRIC DIMENSIONS

FRAME	A	D(1)	E	G	H	J	O	P	T	BA	XC	XD	XE	XF	XO	XP	XAD
B181JATZ-B1812ATZ	8.50	4.50	3.75	.38	.44	1.25	8.88	8.75	1.88	2.75	4.75	13.44	1.69	12.75	17.75	9.00	1.00
B211JATZ-B2112ATZ	10.00	5.25	4.25	.38	.44	1.62	10.44	10.31	2.31	3.50	4.50	15.75	2.44	13.25	21.25	11.25	1.00
B2510ATZ-B2511ATZ	12.00	6.25	5.00	.38	.56	1.75	12.50	12.44	2.81	4.25	3.38	17.06	2.44	14.38	22.44	11.25	1.00
B289ATZ-B2811ATZ	13.50	7.00	5.50	.50	.56	2.25	14.00	13.88	3.06	4.75	3.19	18.31	2.44	14.50	23.62	11.25	1.00

FRAME	C	B	BS	2F	DRIVE END SHAFT AND KEY							WT. LBS.
					N	N-W	U(2)	V	R(4)	SQ.	LGTH	
B1811ATZ	23.75	13.75	11.00	12.50	3.00	2.75	1.3750	2.50	1.201	.312	1.75	195
B1812ATZ	25.25	15.25	12.50	14.00	3.00	2.75	1.3750	2.50	1.201	.312	1.75	215
B2111ATZ	27.50	15.25	12.56	14.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	315
B2112ATZ	30.00	17.25	15.06	16.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	365
B2510ATZ	31.75	17.50	14.12	16.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	435
B2511ATZ	33.75	19.50	16.12	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	485
B289ATZ	33.88	17.50	14.38	16.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	665
B2810ATZ	35.12	19.50	15.62	18.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	705
B2811ATZ	36.88	21.50	17.38	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	765

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE AA(5)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(5)	AB	AC	AF	X	Y	PART NUMBER
B180ATZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES — UP TO 1.625 DIA. +.0000, -.0005. / 1.625 AND LARGER +.000, -.001.
(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP,SIDES,OR BOTTOM.
(4) "R" VARIES +.000, -.015.
(5) AA CONDUIT,TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

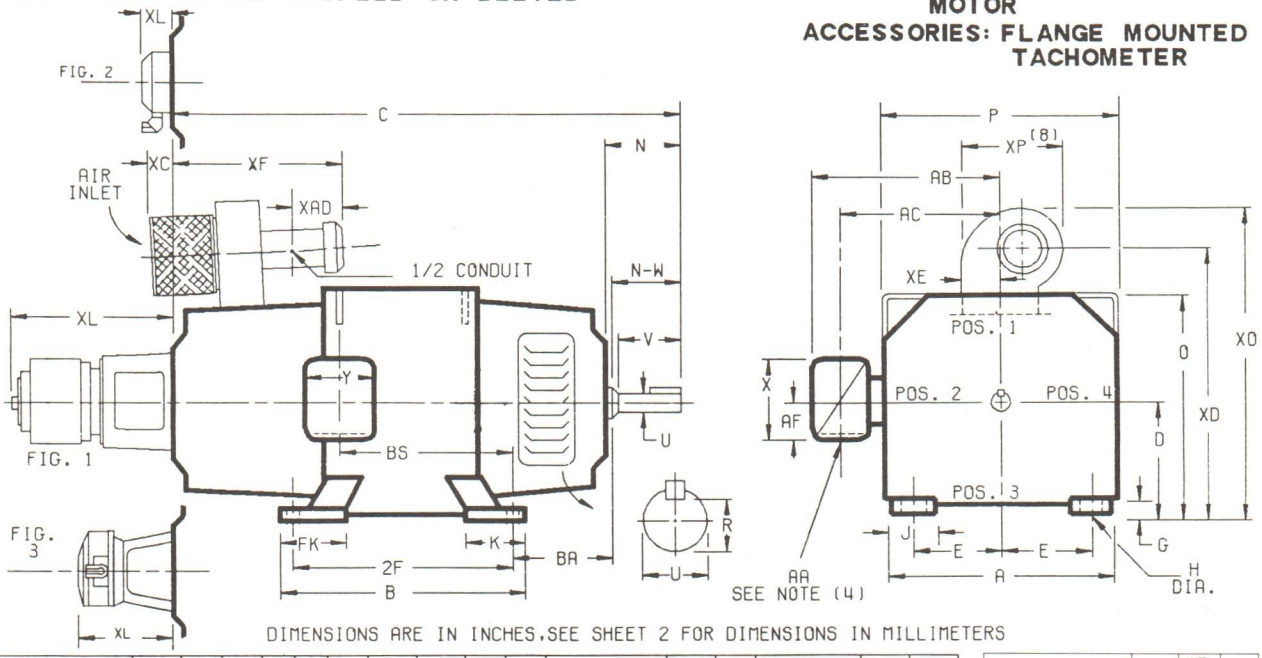
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, 3, OR 4 EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION.
FOR CAST IRON TERMINAL BOX SEE 609902-62-C BLOWER MOTOR

DPG FV • SPG FV
Frames B320ATZ thru B360ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED SPLASHPROOF
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: FORCE VENTILATED AIR FILTERED WITH INTEGRAL BLOWER AND MOTOR
ACCESSORIES: FLANGE MOUNTED TACHOMETER



DIMENSIONS ARE IN INCHES. SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

FRAME	A	D(1)	E	G	H	J	O	P	BA	XAD	XC STD	XC LG(3)	XD	XE	XF STD.	XF LG(3)	XO	(8) XP
B320ATZ-CB320ATZ	16.00	8.00	6.25	.50	.69	2.75	16.25	16.25	5.25	1.00	3.38	.38	19.94	2.19	14.38	17.38	25.25	11.00
B360ATZ-BB360ATZ	18.00	9.00	7.00	.62	.81	2.88	18.00	18.00	5.88	3.00	7.38	3.88	21.69	2.19	16.62	20.12	27.00	11.00

FRAME	C STD.	C LG.(3)	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY N	N-W	U(2)	V	R(7)	SQ.	LGTH	WT. LBS.
B327ATZ-BB327ATZ	32.62	35.62	15.88	12.25	14.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	800
B328ATZ-BB328ATZ	33.62	36.62	17.88	13.25	16.00	5.31	6.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	840
AB328ATZ-CB328ATZ	34.62	37.62	17.88	14.25	16.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	880
B366ATZ-BB366ATZ	33.88	37.38	16.00	12.12	14.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	895
B367ATZ-BB367ATZ	35.38	38.88	18.00	13.62	16.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1045
B368ATZ-BB368ATZ	37.88	41.38	20.00	16.12	18.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1215
B369ATZ-BB369ATZ	39.38	42.88	22.00	17.62	20.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1325
B3610ATZ-BB3610ATZ	40.38	43.88	24.00	18.62	22.00	5.50	7.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1405

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE AA(5)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(5)	AB	AC	AF	X	Y	PART NUMBER
B320ATZ	128	2	13.75	10.25	4.25	8.44	7.25	74874-R	3	14.19	10.94	4.25	8.44	7.25	74874-24-R
	185	3	14.19	10.94	4.25	8.44	7.25	74874-24-R	4	15.69	11.62	5.38	10.56	9.00	700308-3-R
	269	4	15.69	11.62	5.38	10.56	9.00	700308-3-R	5	18.69	13.44	7.00	12.75	15.00	76870-9-R
B360ATZ	128	2	14.75	11.25	4.25	8.44	7.25	74874-R	3	15.19	11.94	4.25	8.44	7.25	74874-24-R
	185	3	15.19	11.94	4.25	8.44	7.25	74874-24-R	4	16.69	12.62	5.38	10.56	9.00	700308-3-R
	269	4	16.69	12.62	5.38	10.56	9.00	700308-3-R	5	19.69	14.44	7.00	12.75	15.00	76870-9-R
	500	5	19.69	14.44	7.00	12.75	15.00	76870-9-R	6	19.69	14.44	7.00	12.75	15.00	76870-9-S

CAST IRON TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE AA(6)	AB	AC	AF	X	Y	PART NUMBER	ONE SIZE LARGER AA(6)	AB	AC	AF	X	Y	PART NUMBER
B320ATZ	128	2	12.50	10.06	3.00	6.00	7.00	75460-T	3	14.19	10.44	3.62	7.88	9.25	76700-RB
	185	3	14.19	10.44	3.62	7.88	9.25	76700-RB	4	15.50	11.31	4.12	9.50	10.50	76708-RR
	269	4	15.50	11.31	4.12	9.50	10.50	76708-RR	5	18.69	13.44	7.00	12.75	15.00	76870-S
B360ATZ	128	2	13.50	11.06	3.00	6.00	7.00	75460-T	3	15.19	11.44	3.62	7.88	9.25	76700-RB
	185	3	15.19	11.44	3.62	7.88	9.25	76700-RB	4	16.50	12.31	4.12	9.50	10.50	76708-RR
	269	4	16.50	12.31	4.12	9.50	10.50	76708-RR	5	19.69	14.44	7.00	12.75	15.00	76870-S
	500	5	19.69	14.44	7.00	12.75	15.00	76870-S	6	19.69	14.44	7.00	12.75	15.00	76870-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000,-.001.
(3) FRAMES PREFIXED BY "BB" OR "CB".
(4) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(5) AA CONDUIT.
(6) AA PIPE TAP.
(7) "R" VARIES +.000,-.015.
(8) BLOWER HOUSING SCROLL, IN POSITION 4, ON B320ATZ-CB320ATZ HANGS BELOW "D" DIMENSION BY .88 INCHES ON B360ATZ-BB360ATZ WILL CLEAR "D" DIMENSION BY .12 INCHES REF D/S 609902-150 FOR ALTERNATE MOUNTING

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

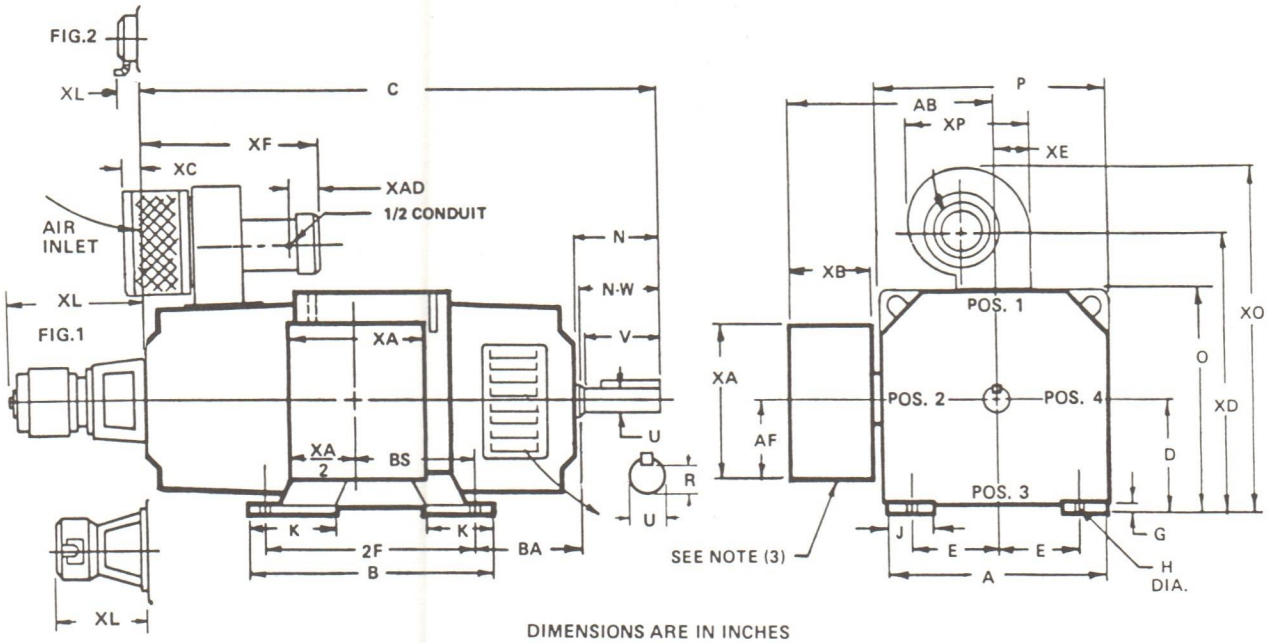
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, 3 OR 4 EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION.

DPG FV • SPG FV
Frames B400ATZ thru UB400ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF
MOUNTING: FOOT

COOLING: FORCE VENTILATED
AIR FILTERED WITH INTEGRAL
BLOWER AND MOTOR
ACCESSORIES: FLANGE MOUNTED TACHOMETER



DIMENSIONS ARE IN INCHES

(SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS)

FRAME	A	D (1)	E	G	H	J	O	P	AB	AF	BA	XA	XB	XC	XD	XE	XF	XO	XP	XAD
B400ATZ - UB400ATZ	19.88	10.00	8.00	.81	1.06	3.25	20.25	20.38	22.88	7.00	6.62	14.00	12.00	4.50	26.75	6.06	19.62	34.25	16.00	2.62

FRAME	DUTY	C	B	BS	2F	K	DRIVE END SHAFT & KEY							WT.
							N	N-W	U(2)	V	R(4)	SQ	LGTH	LBS
UB406ATZ	BELTED	41.75	18.00	9.75	16.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	1565
B406ATZ	COUPLED	41.00	18.00	9.75	16.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	1560
UB408ATZ	BELTED	44.50	22.50	12.50	20.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	1800
B408ATZ	COUPLED	43.75	22.50	12.50	20.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	1795
UB409ATZ	BELTED	47.75	24.50	15.75	22.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2075
B409ATZ	COUPLED	47.00	24.50	15.75	22.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2070
UB4010ATZ	BELTED	49.75	27.50	17.75	25.00	7.50	6.88	6.50	3.250	6.25	2.831	.750	5.00	2310
B4010ATZ	COUPLED	49.00	27.50	17.75	25.00	7.50	6.12	5.75	2.875	5.50	2.450	.750	4.25	2305

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES +.000 –.001

(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.

(4) "R" VARIES +.000 –.015

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

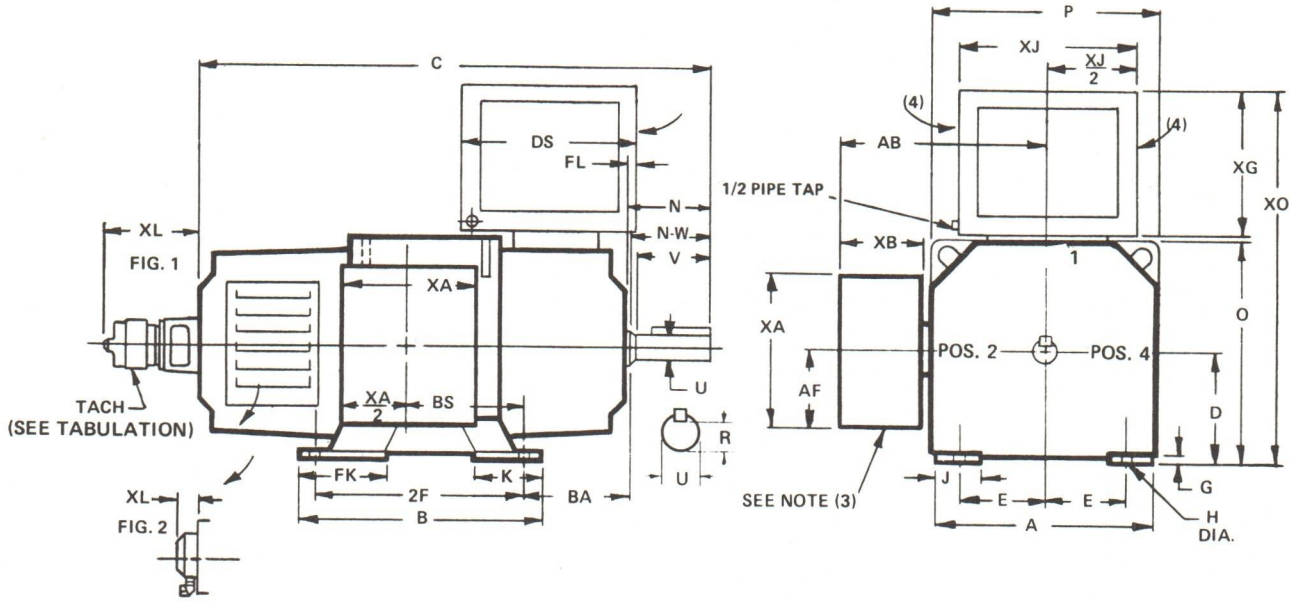
BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, 3 OR 4 EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION.

DIMENSIONS ARE IN INCHES.

DPG FV • SPG FV
Frames B500ATZ thru B680ATZ

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF
MOUTNING: FOOT
ACCESSORIES: FLANGE MOUNTED TACHOMETERS

COOLING: FORCE VENTILATED
AIR FILTERED WITH INTEGRAL
BLOWER AND MOTOR



DIMENSIONS ARE IN INCHES

FRAME	A	D (1)	E	G	H	J	O	P	AB	AF	BA	DS	FL	XA	XB	XG	XJ	XO
B500ATZ-UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	25.75	25.44	7.00	8.50	22.25	.50	14.00	12.00	18.00	22.00	43.50
B580ATZ-UB580ATZ	28.50	14.50	11.50	1.25	1.44	4.50	29.25	29.50	27.75	9.50	10.00	22.25	.12	19.00	12.00	23.00	22.25	52.75
B680ATZ	33.50	17.00	13.50	1.50	1.44	5.00	34.50	35.00	30.25	9.50	11.50	22.25	.00	19.00	12.00	23.00	22.25	57.75

FRAME	DUTY	C	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT. (LBS)
								N	N-W	U (2)	V	R (5)	SQ.	LGTH	
UB506ATZ	BELTED	50.62	22.50	12.12	20.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	2705
B506ATZ	COUPLED	49.62	22.50	12.12	20.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	2675
UB507ATZ	BELTED	53.62	24.50	15.12	22.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3135
B507ATZ	COUPLED	52.62	24.50	15.12	22.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3105
UB508ATZ	BELTED	56.62	27.50	18.12	25.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3585
B508ATZ	COUPLED	55.62	27.50	18.12	25.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3505
UB587ATZ	BELTED	58.19	28.50	15.62	25.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	4670
B587ATZ	COUPLED	58.19	28.50	15.62	25.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	4670
UB588ATZ	BELTED	61.19	31.50	18.62	28.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5255
B588ATZ	COUPLED	61.19	31.50	18.62	28.00	8.00	9.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5255
UB589ATZ	BELTED	63.69	35.50	21.12	32.00	8.00	10.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5655
B589ATZ	COUPLED	63.69	35.50	21.12	32.00	8.00	10.00	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5655
B686ATZ	COUPLED	65.75	31.50	18.38	28.00	9.00	9.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	6985
B687ATZ	COUPLED	68.25	35.50	20.88	32.00	9.00	11.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	7655
B688ATZ	COUPLED	72.75	39.50	25.38	36.00	9.00	11.00	9.62	9.00	4.500	8.75	3.944	1.000	7.25	8815

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES +.000 –.001

(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.

(4) 2 AIR INLETS B500ATZ ONLY

(5) "R" VARIES +.000 –.015

TERMINAL BOX LOCATED ON OPPOSIDE SIDE WHEN F-2, W-1, W-4, W-5 W-7 OR C-1 MOUNTING IS SPECIFIED.

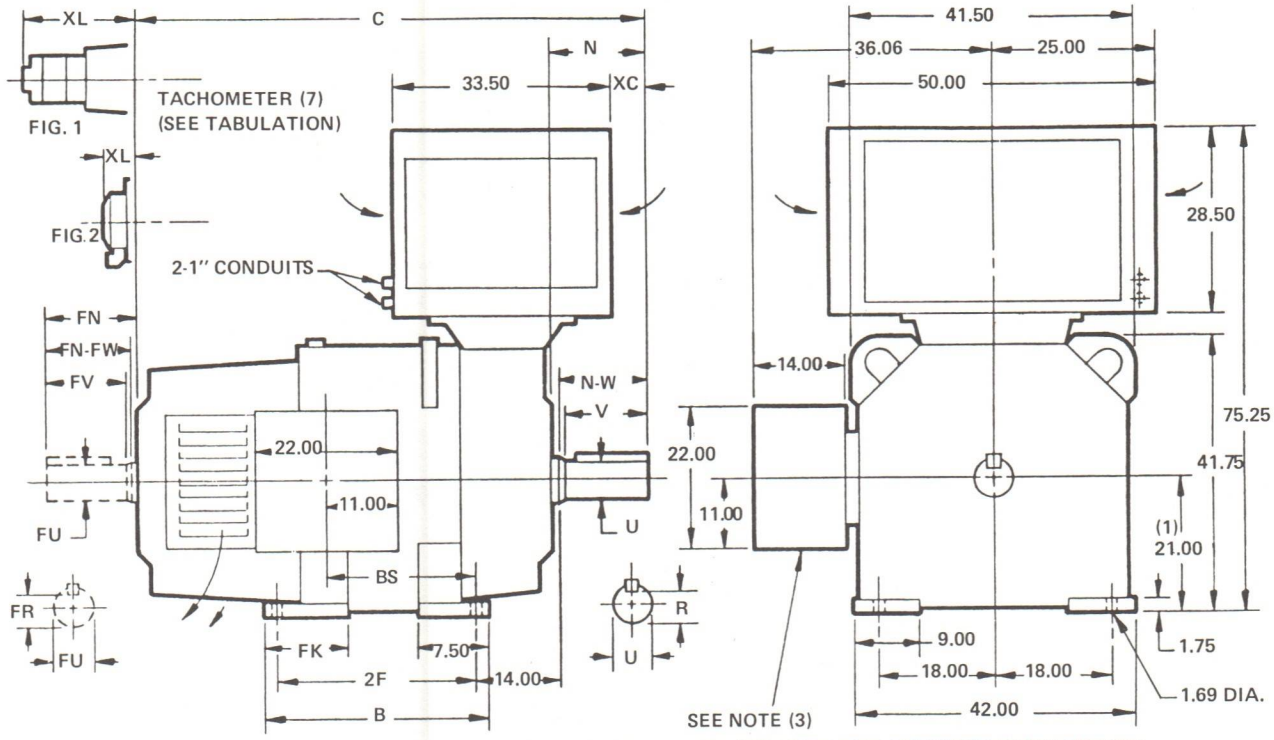
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

BLOWER ASSEMBLY CAN BE LOCATED AT POSITIONS 1, 2, OR 4 EXCEPT BLOWER ASSEMBLY AND TERMINAL BOX CAN NOT BE LOCATED AT THE SAME POSITION.

DPG FV • SPG FV
Frames B840AT

ENCLOSURE: DRIP-PROOF FULLY-GUARDED SPLASHPROOF
MOUNTING: FOOT
ACCESSORIES: FLANGE MOUNTED TACHOMETERS

COOLING: FORCE VENTILATED AIR FILTERED WITH INTEGRAL BLOWER AND MOTOR



DIMENSIONS ARE IN INCHES (SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS)

FRAME	DUTY	C	B	BS	2F	XC	FK	DRIVE END SHAFT AND KEY							(4) OPPOSITE DRIVE END SHAFT AND KEY							WT. (LBS.)
								N	N-W	U(5)	V	R(6)	SQ.	LGTH.	FN	FN-FW	FU(5)	FV	FR(6)	SQ.	LGTH	
B842AT	COUPLED(2)	74.00	26.00	17.50	22.00	2.38	7.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	11160
B843AT	COUPLED(2)	76.50	29.00	20.00	25.00	2.38	7.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12095
B844AT	COUPLED(2)	78.50	32.00	22.00	28.00	2.38	7.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12905
B845AT	COUPLED	82.00	36.00	25.50	32.00	2.38	7.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	14140
B845ATZ	COUPLED(2)	83.50	36.00	25.50	32.00	3.88	7.50	13.50	13.00	6.50	12.75	5.662	1.500	10.75	12.00	11.50	5.75	11.25	4.900	1.500	9.25	14140
B846AT	COUPLED	84.50	40.00	28.00	36.00	2.38	10.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	15245
B846ATZ	COUPLED(2)	86.00	40.00	28.00	36.00	3.88	10.50	13.50	13.00	6.50	12.75	5.662	1.500	10.75	12.00	11.50	5.75	11.25	4.900	1.500	9.25	15245
B847AT	COUPLED	87.00	44.00	30.50	40.00	2.38	10.50	12.00	11.50	5.75	11.25	4.900	1.500	9.25	12.00	11.50	5.75	11.25	4.900	1.500	9.25	16100
B847ATZ	COUPLED(2)	88.50	44.00	30.50	40.00	3.88	10.50	13.50	13.00	6.50	12.75	5.662	1.500	10.75	12.00	11.50	5.75	11.25	4.900	1.500	9.25	16100

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001
(6) "R" AND FR VARY +.000 -.015
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.

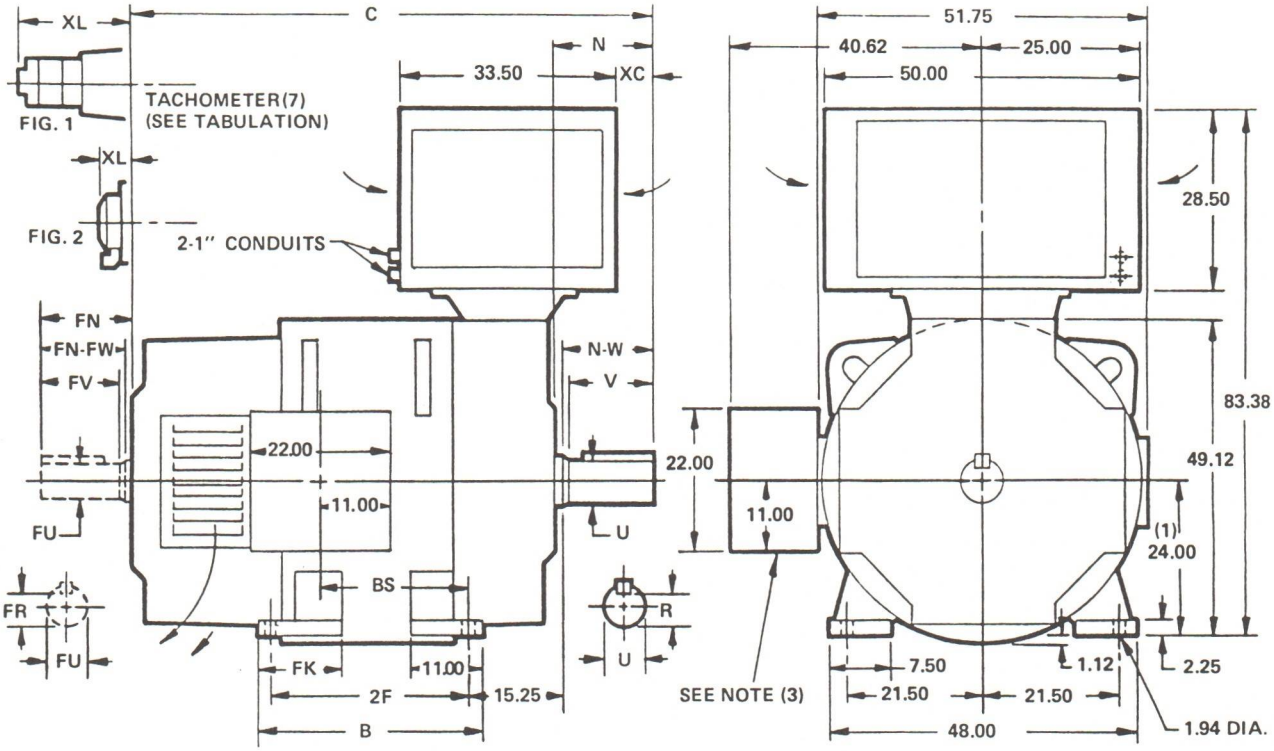
DIMENSIONS ARE IN INCHES.
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, OR C-1 MOUNTING IS SPECIFIED.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

DPG FV • SPG FV
Frames B960AT

ENCLOSURE: DRIP-PROOF FULLY-GUARDED SPLASHPROOF
MOUNTING: FOOT
ACCESSORIES: FLANGE MOUNTED TACHOMETERS

COOLING: FORCE VENTILATED-AIR FILTERED WITH INTEGRAL BLOWER AND MOTOR



DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	XC	FK	DRIVE END SHAFT AND KEY							(4) OPPOSITE DRIVE END SHAFT & KEY							WT.
								N	N-W	U(5)	V	R(6)	SIZE	LGTH	FN	FN-FW	FU(5)	FV	FR(6)	SQ.	LGTH	(LBS.)
B962AT	COUPLED(2)	82.50	33.00	23.62	28.00	5.62	11.00	13.50	13.00	6.50	12.75	5.662	1.500 SQ.	10.75	13.50	13.00	6.50	12.75	5.662	1.500	10.75	16165
B963AT	COUPLED(2)	85.00	37.00	26.12	32.00	5.62	11.00	13.50	13.00	6.50	12.75	5.662	1.500 SQ.	10.75	13.50	13.00	6.50	12.75	5.662	1.500	10.75	17250
B964AT	COUPLED	88.00	41.00	29.12	36.00	5.62	11.00	13.50	13.00	6.50	12.75	5.662	1.500 SQ.	10.75	13.50	13.00	6.50	12.75	5.662	1.500	10.75	18710
B964ATZ	COUPLED(2)	89.50	41.00	29.12	36.00	7.12	11.00	15.00	14.50	7.25	14.25	6.393	1.750x 1.500	12.25	13.50	13.00	6.50	12.75	5.662	1.500	10.75	18710
B965AT	COUPLED	92.00	45.00	33.12	40.00	5.62	11.00	13.50	13.00	6.50	12.75	5.662	1.500 SQ.	10.75	13.50	13.00	6.50	12.75	5.662	1.500	10.75	20415
B965ATZ	COUPLED(2)	93.50	45.00	33.12	40.00	7.12	11.00	15.00	14.50	7.25	14.25	6.393	1.750x 1.500	12.25	13.50	13.00	6.50	12.75	5.662	1.500	10.75	20415
B966AT	COUPLED	96.00	50.00	37.12	45.00	5.62	12.00	13.50	13.00	6.50	12.75	5.662	1.500 SQ.	10.75	13.50	13.00	6.50	12.75	5.662	1.500	10.75	22300

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001
(6) "R" AND FR VARY +.000 -.015
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, OR C-1 MOUNTING IS SPECIFIED.

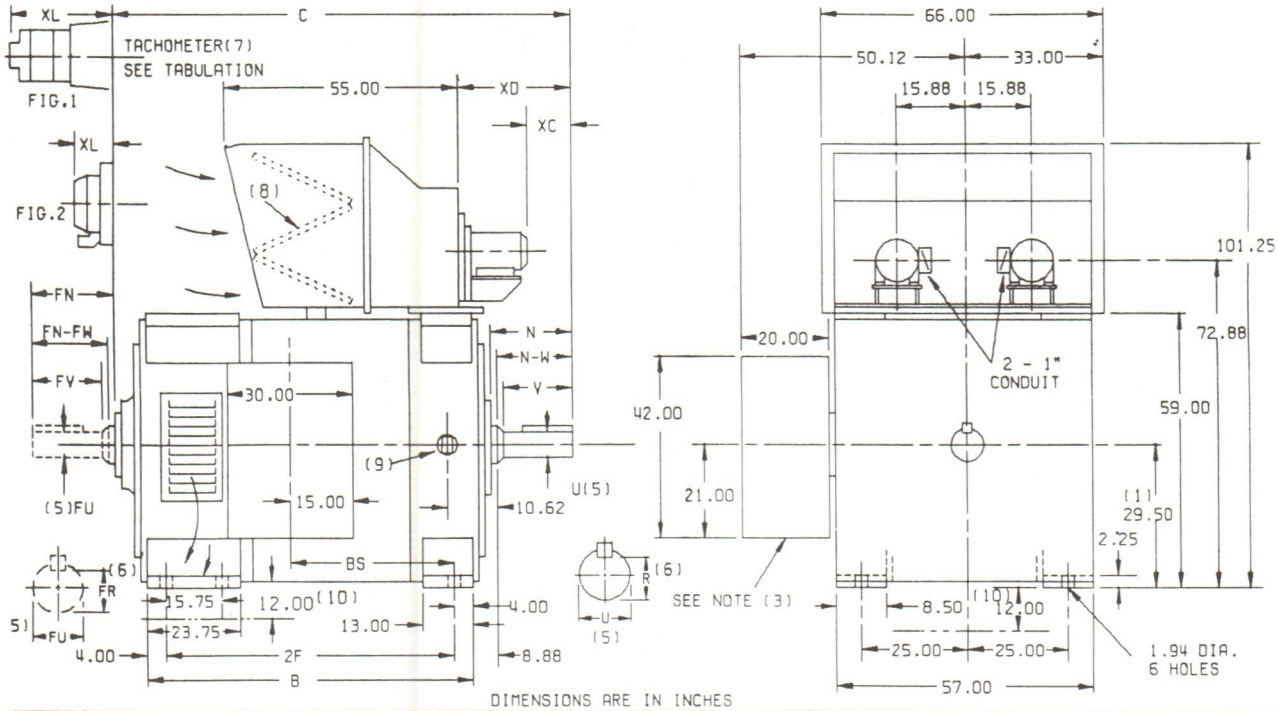
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

DPG FV • SPG FV
Frames B1200AT

ENCLOSURE: DRIP-PROOF FULLY-GUARDED
SPLASHPROOF
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED
DIFFERENTIAL PRESSURE SWITCH

COOLING: FORCE VENTILATED
WITH INTEGRAL BLOWER
AND MOTOR
ACCESSORIES: FLANGE MOUNTED
TACHOMETER



DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	XC	XD	DRIVE END SHAFT AND KEY							(4)OPPOSITE DRIVE END SHAFT AND KEY							WT.
								N	N-W	U(5)	V	R(6)	RECT.	LGTH.	FN	FN-FW	FU(5)	FV	FR(6)	RECT.	LGTH.	(LBS.)
B1202AT	COUPLED	88.25	60.50	24.75	52.50	4.12	19.00	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	22345
B1202ATZ	COUPLED(2)	90.25	60.50	24.75	52.50	6.12	21.00	17.00	16.50	8.250	16.25	7.377	2.000x1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	22625
B1204AT	COUPLED	92.25	64.50	28.75	56.50	4.12	19.00	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	24745
B1204ATZ	COUPLED(2)	94.25	64.50	28.75	56.50	6.12	21.00	17.00	16.50	8.250	16.25	7.377	2.000x1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	25025
B1205AT	COUPLED	95.50	67.75	32.00	59.75	4.12	19.00	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	26560
B1205ATZ	COUPLED(2)	97.50	67.75	32.00	59.75	6.12	21.00	17.00	16.50	8.250	16.25	7.377	2.000x1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	26840
B1206AT	COUPLED	97.75	70.00	34.25	62.00	4.12	19.00	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	28010
B1206ATZ	COUPLED(2)	101.75	70.00	34.25	62.00	8.12	21.00	19.00	18.50	9.250	18.25	8.203	2.500x1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	28290
B1207AT	COUPLED	100.50	72.75	37.00	64.75	4.12	19.00	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	29530
B1207ATZ	COUPLED(2)	104.50	72.75	37.00	64.75	8.12	21.00	19.00	18.50	9.250	18.25	8.203	2.500x1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	29810
B1208AT	COUPLED	105.00	75.25	39.50	67.25	6.12	19.00	17.00	16.50	8.250	16.25	7.377	2.000x1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	31300
B1208ATZ	COUPLED(2)	107.00	75.25	39.50	67.25	8.12	21.00	19.00	18.50	9.250	18.25	8.203	2.500x1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	31460
B1209AT	COUPLED	107.75	78.00	42.25	70.00	6.12	19.00	17.00	16.50	8.250	16.25	7.377	2.000x1.500	14.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	32740
B1209ATZ	COUPLED(2)	109.75	78.00	42.25	70.00	8.12	21.00	19.00	18.50	9.250	18.25	8.203	2.500x1.750	16.25	15.00	14.50	7.250	14.25	6.393	1.750x1.500	12.25	32900

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001.
(6) "R" AND "FR" VARY +.000 -.015.
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.
(8) CLEANABLE AIR FILTERS WHEN SPECIFIED. 21" CLEARANCE REQUIRED EITHER SIDE FOR REMOVAL.
(9) DIFFERENTIAL PRESSURE SWITCH.
(10) DO NOT ENCROACH ON AIR DISCHARGE SPACE BETWEEN FEET. OPPOSITE DRIVE END.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1

TACHOMETER	XL	WT. LBS.	FIG.
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

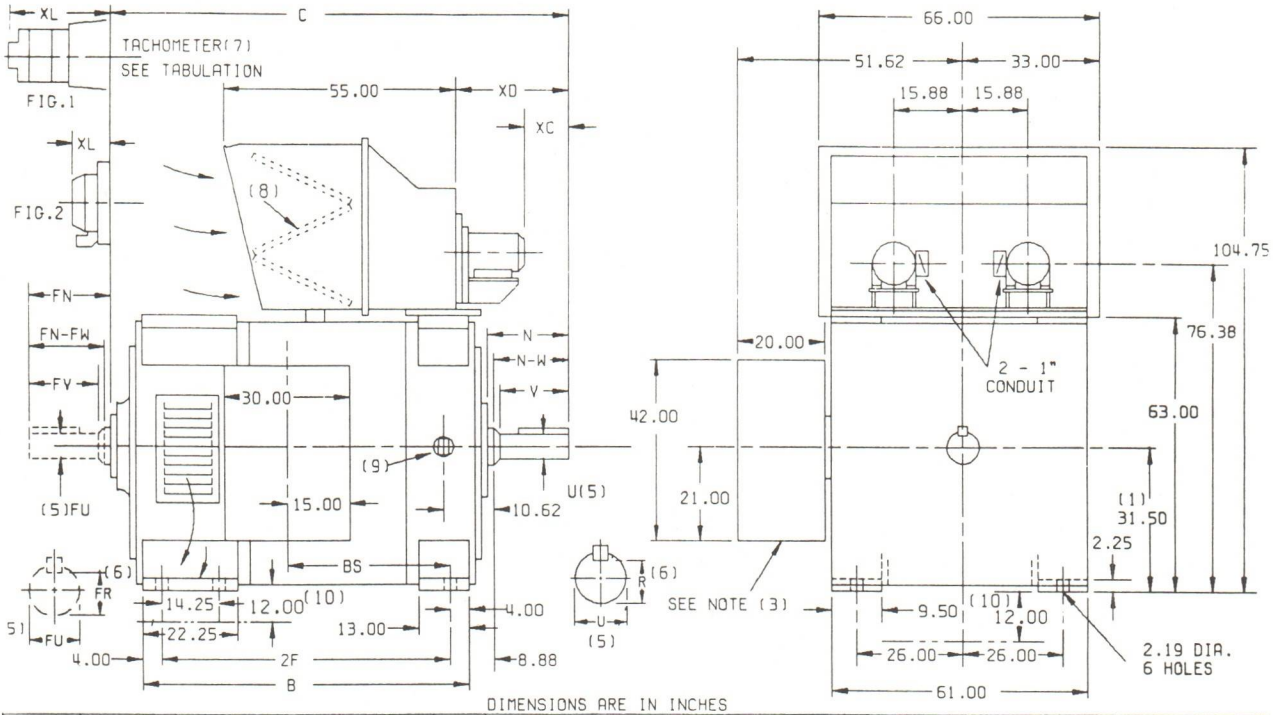
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED. FOR NON-STANDARD MOUNTING CONSULT FACTORY.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

D/S 609902-266 • November 22, 1982

DPG FV • SPG FV
Frames B1400AT

ENCLOSURE: DRIP-PROOF FULLY-GUARDED SPLASHPROOF
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED
DIFFERENTIAL PRESSURE SWITCH

COOLING: FORCE VENTILATED WITH INTEGRAL BLOWER AND MOTOR
ACCESSORIES: FLANGE MOUNTED TACHOMETER



DIMENSIONS ARE IN INCHES

FRAME	DUTY	C	B	BS	2F	XC	XD	DRIVE END SHAFT AND KEY N	N-W	U(5)	V	R(6)	RECT.	LGTH.	(4)OPPOSITE DRIVE END SHAFT AND KEY FN	FN-FW	FU(5)	FV	FR(6)	RECT.	LGTH.	WT. (LBS.)
B1401AT	COUPLED	89.25	58.75	24.50	50.75	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	23370
B1401ATZ	COUPLED(2)	92.25	58.75	24.50	50.75	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	23655
B1403AT	COUPLED	93.25	62.75	28.50	54.75	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	25850
B1403ATZ	COUPLED(2)	96.25	62.75	28.50	54.75	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	26135
B1405AT	COUPLED	98.25	67.75	33.50	59.75	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	29150
B1405ATZ	COUPLED(2)	101.25	67.75	33.50	59.75	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	29435
B1406AT	COUPLED	101.00	70.50	36.25	62.50	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	30860
B1406ATZ	COUPLED(2)	104.00	70.50	36.25	62.50	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	31145
B1407AT	COUPLED	103.25	72.75	38.50	64.75	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	32260
B1407ATZ	COUPLED(2)	106.25	72.75	38.50	64.75	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	32545
B1408AT	COUPLED	105.00	74.50	40.25	66.50	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	33225
B1408ATZ	COUPLED(2)	108.00	74.50	40.25	66.50	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	33510
B1409AT	COUPLED	108.75	78.25	44.00	70.25	4.62	21.00	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	35750
B1409ATZ	COUPLED(2)	111.75	78.25	44.00	70.25	7.62	24.00	20.00	19.50	9.750	19.25	8.712	2.500x 1.750	17.25	17.00	16.50	8.250	16.25	7.377	2.000x 1.500	14.25	36035

(1) DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) TANDEM DRIVE
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP OR BOTTOM.
(4) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED.
(5) "U" AND "FU" VARY +.000 -.001.
(6) "R" AND "FR" VARY +.000 -.015.
(7) FLANGE MOUNTED TACH. SUPPLIED ONLY WHEN SPECIFIED.
(8) CLEANABLE AIR FILTERS WHEN SPECIFIED. 21" CLEARANCE REQUIRED EITHER SIDE FOR REMOVAL.
(9) DIFFERENTIAL PRESSURE SWITCH.
(10) DO NOT ENCROACH ON AIR DISCHARGE SPACE BETWEEN FEET. OPPOSITE DRIVE END.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1

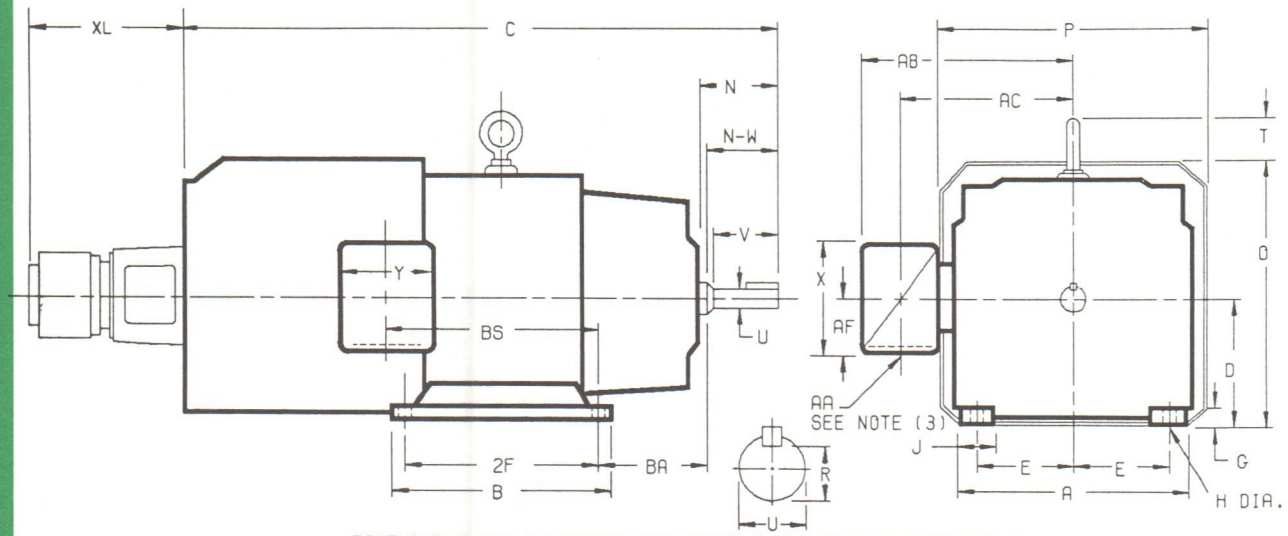
TACHOMETER	XL	WT. LBS.	FIG.
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED. FOR NON-STANDARD MOUNTING CONSULT FACTORY.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

TEFC
Frames B180ATZ thru B280ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: FAN COOLED
ACCESSORIES: FLANGE MOUNTED TACHOMETERS



DIMENSIONS ARE IN INCHES SEE SHEET 2 FOR METRIC DIMENSIONS

FRAME	A	D(1)	E	G	H	J	O	P	T	BA
B1811ATZ-B1812ATZ	8.50	4.50	3.75	.38	.44	1.25	9.50	10.00	1.50	2.75
B2111ATZ-B2112ATZ	10.00	5.25	4.25	.38	.44	1.62	11.00	11.50	1.75	3.50
B2510ATZ-B2511ATZ	12.00	6.25	5.00	.38	.56	1.75	13.06	13.62	2.25	4.25
B2811ATZ-B2811ATZ	13.50	7.00	5.50	.50	.56	2.25	14.50	15.25	2.38	4.75

FRAME	C	B	BS	2F	DRIVE END SHAFT AND KEY							WT. LBS.
					N	N-W	U(2)	V	R(4)	SQ.	LGTH	
B1811ATZ	27.31	13.75	11.00	12.50	3.00	2.75	1.3750	2.50	1.201	.312	1.75	185
B1812ATZ	28.81	15.25	12.50	14.00	3.00	2.75	1.3750	2.50	1.201	.312	1.75	205
B2111ATZ	31.38	15.25	12.56	14.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	305
B2112ATZ	33.88	17.25	15.06	16.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	345
B2510ATZ	35.97	17.50	14.12	16.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	440
B2511ATZ	37.97	19.50	16.12	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	490
B2811ATZ	38.00	17.50	14.38	16.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	705
B2810ATZ	39.25	19.50	15.62	18.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	765
B2811ATZ	41.00	21.50	17.38	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	665

M627,M628,M727		RE-210		BC-46		BC-42		RD-11,RD-12		RD-51		K627,K727		RE-045G WITH K45M1000		SPY		RD-61,RD-62	
XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.	XL	WT.
10.62	16	17.62	40	17.88	45	15.69	35	12.44	15	19.00	60	10.62	16	8.75	15	10.62	15	12.25	25

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B180ATZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES — UP TO 1.625 DIA. +.0000, -.0005. 1.625 AND LARGER +.000, -.001.
(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM
(4) "R" VARIES +.000, -.015.
(5) TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

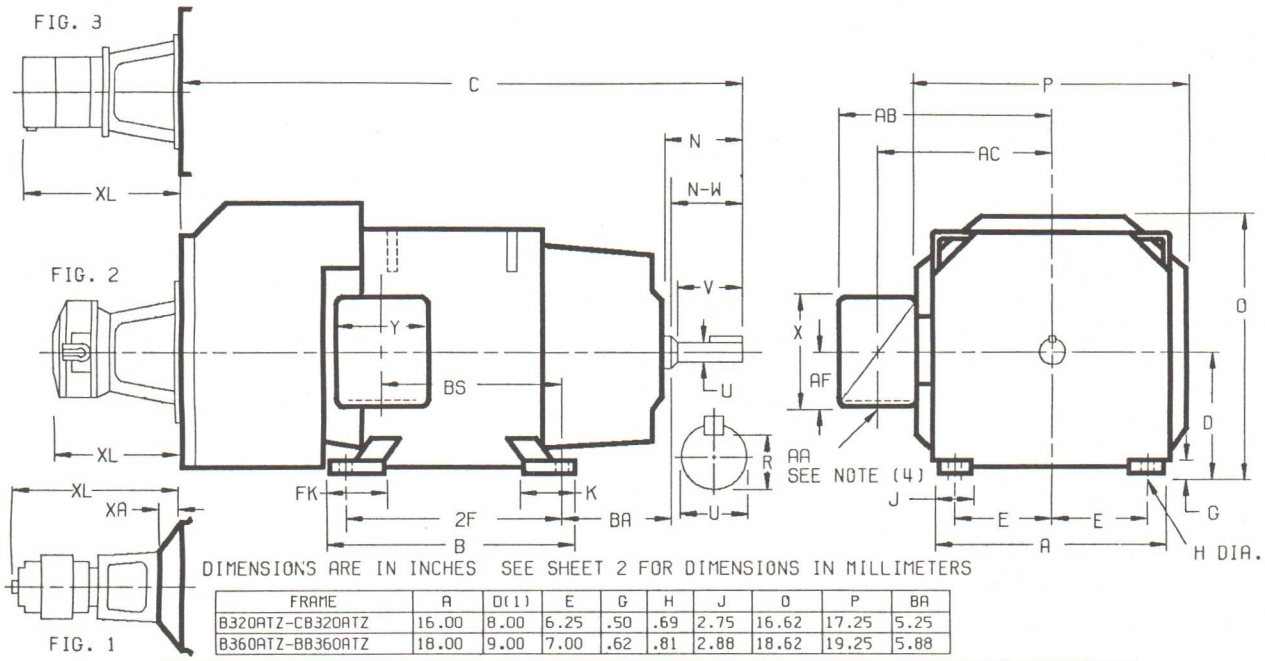
FOR CAST IRON TERMINAL BOX SEE 609901-15-C

TEFC
Frames B320ATZ thru B360ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: FAN COOLED

ACCESSORIES: FLANGE MOUNTED TACHOMETER



DIMENSIONS ARE IN INCHES SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS

FRAME	A	D(1)	E	G	H	J	O	P	BA
B320ATZ-CB320ATZ	16.00	8.00	6.25	.50	.69	2.75	16.62	17.25	5.25
B360ATZ-BB360ATZ	18.00	9.00	7.00	.62	.81	2.88	18.62	19.25	5.88

FRAME	C		B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT. LBS.
	STD.	LG.(3)						N	N-W	U(2)	V	R(7)	SQ.	LGTH	
B327ATZ-BB327ATZ	36.81	39.81	15.88	12.25	14.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	800
B328ATZ-BB328ATZ	37.81	40.81	17.88	13.25	16.00	5.31	6.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	840
AB328ATZ-CB328ATZ	38.81	41.81	17.88	14.25	16.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	880
B366ATZ-BB366ATZ	38.69	42.19	16.00	12.12	14.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	900
B367ATZ-BB367ATZ	40.19	43.69	18.00	13.62	16.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1040
B368ATZ-BB368ATZ	42.69	46.19	20.00	16.12	18.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1210
B369ATZ-BB369ATZ	44.19	47.69	22.00	17.62	20.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1320
B3610ATZ-BB3610ATZ	45.19	48.69	24.00	18.62	22.00	5.50	7.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1400

FIG. 1																			FIG. 2		FIG. 3	
RD-61,RD-62			RE-210			BC-46			BC-42			RD-11,RD-12			RD-51			M627,M628,M727			RE045G WITH K45M1000		5PY	
XA	XL	WT.	XA	XL	WT.	XA	XL	WT.	XA	XL	WT.	XA	XL	WT.	XA	XL	WT.	XA	XL	WT.	XL	WT.	XL	WT.
2.25	12.25	25	2.25	17.62	40	2.25	17.88	45	2.25	15.69	35	2.25	12.44	15	2.25	19.00	60	2.25	10.62	16	8.81	23	10.62	15

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B320ATZ	128	2	14.75	11.25	4.25	8.44	7.25	74874-R	3	15.19	11.94	4.25	8.44	7.25	74874-24-R
	185	3	15.19	11.94	4.25	8.44	7.25	74874-24-R	4	16.69	12.62	5.38	10.56	9.00	700308-3-R
	269	4	16.69	12.62	5.38	10.56	9.00	700308-3-R	5	19.69	14.44	7.00	12.75	15.00	76870-9-R
B360ATZ	128	2	15.75	12.25	4.25	8.44	7.25	74874-R	3	16.19	12.94	4.25	8.44	7.25	74874-24-R
	185	3	16.19	12.94	4.25	8.44	7.25	74874-24-R	4	17.69	13.62	5.38	10.56	9.00	700308-3-R
	269	4	17.69	13.62	5.38	10.56	9.00	700308-3-R	5	20.69	15.44	7.00	12.75	15.00	76870-9-R
	500	5	20.69	15.44	7.00	12.75	15.00	76870-9-R	6	20.69	15.44	7.00	12.75	15.00	76870-9-S

CAST IRON TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B320ATZ	128	2	13.50	11.06	3.00	6.00	7.00	75460-T	3	15.19	11.44	3.62	7.88	9.25	76700-RB
	185	3	15.19	11.44	3.62	7.88	9.25	76700-RB	4	16.50	12.31	4.12	9.50	10.50	76708-RR
	269	4	16.50	12.31	4.12	9.50	10.50	76708-RR	5	19.69	14.44	7.00	12.75	15.00	76870-S
B360ATZ	128	2	14.50	12.06	3.00	6.00	7.00	75460-T	3	16.19	12.44	3.62	7.88	9.25	76700-RB
	185	3	16.19	12.44	3.62	7.88	9.25	76700-RB	4	17.50	13.31	4.12	9.50	10.50	76708-RR
	269	4	17.50	13.31	4.12	9.50	10.50	76708-RR	5	20.69	15.44	7.00	12.75	15.00	76870-S
	500	5	20.69	15.44	7.00	12.75	15.00	76870-S	6	20.69	15.44	7.00	12.75	15.00	76870-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000, -.001.
(3) FRAMES PREFIXED BY "BB" OR "CB"
(4) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.
(5) AA CONDUIT
(6) AA PIPE TAP
(7) "R" VARIES +.000, -.015.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

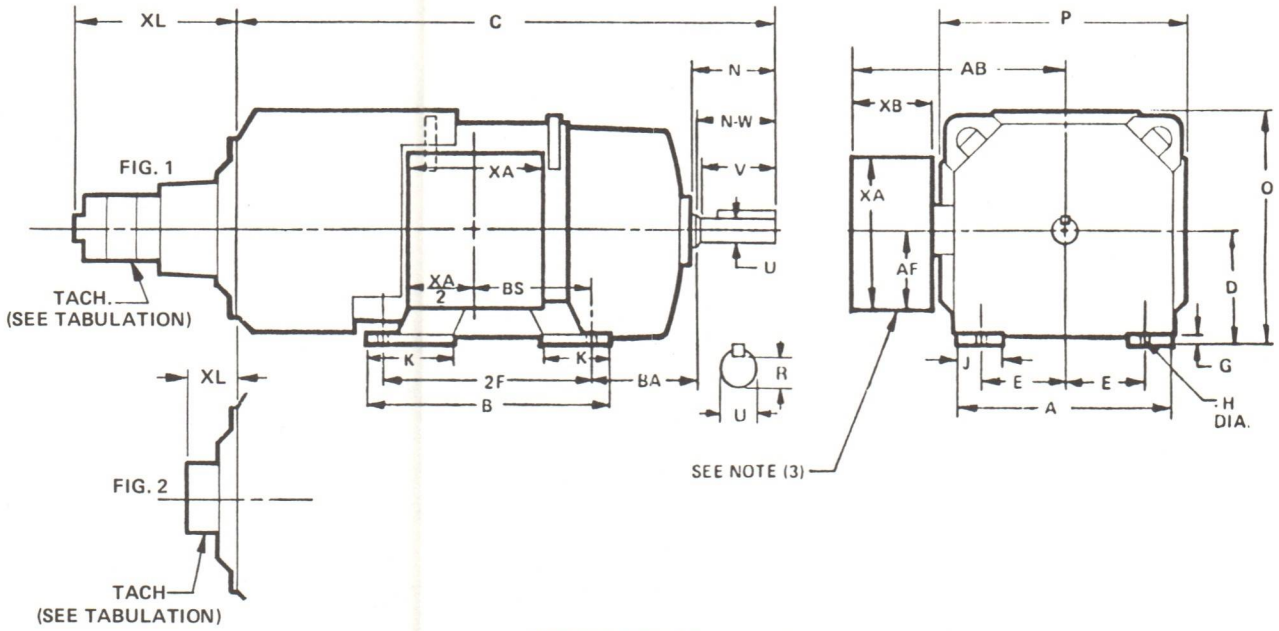
TEFC
Frames B400ATZ thru B500ATZ

ENCLOSURE: TOTALLY ENCLOSED

COOLING: FAN COOLED

MOUNTING: FOOT

ACCESSORIES: FLANGE MOUNTED TACHOMETERS



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	BA	AB	XA	AF	XB
B400ATZ-UB400ATZ	19.88	10.00	8.00	.81	1.06	3.25	21.25	22.50	6.62	23.38	14.00	7.00	12.00
B500ATZ-UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.62	26.25	8.50	25.94	14.00	7.00	12.00

FRAME	DUTY	C	B	BS	2F	K	DRIVE END SHAFT AND KEY							WT.
							N	N-W	U(2)	V	R(4)	SQ.	LGTH	(LBS.)
UB408ATZ	BELTED	50.19	22.50	12.50	20.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2155
B408ATZ	COUPLING	49.44	22.50	12.50	20.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2150
UB409ATZ	BELTED	53.44	24.50	15.75	22.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2430
B409ATZ	COUPLING	52.69	24.50	15.75	22.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2425
UB506ATZ	BELTED	55.31	22.50	12.12	20.00	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3010
B506ATZ	COUPLING	54.31	22.50	12.12	20.00	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	2980
UB507ATZ	BELTED	58.31	24.50	15.12	22.00	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3440
B507ATZ	COUPLING	57.31	24.50	15.12	22.00	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3410
UB508ATZ	BELTED	61.31	27.50	18.12	25.00	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3835
U508ATZ	COUPLING	60.31	27.50	18.12	25.00	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3805

TACH.	XL	WT. LBS.	FIG.
RE-210	18.32	30	1
5PY	13.88	7	1
BC-42	16.38	25	1
BC-46	18.69	35	1
RD-11	13.00	17	1
RD-31	13.00	19	1
RD-51	19.69	38	1
RE-045	5.56	5	2
TG2168A D-C TACH	5.56	5	2

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000 -.001
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BAX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(4) "R" VARIES +.000 -.015.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED.

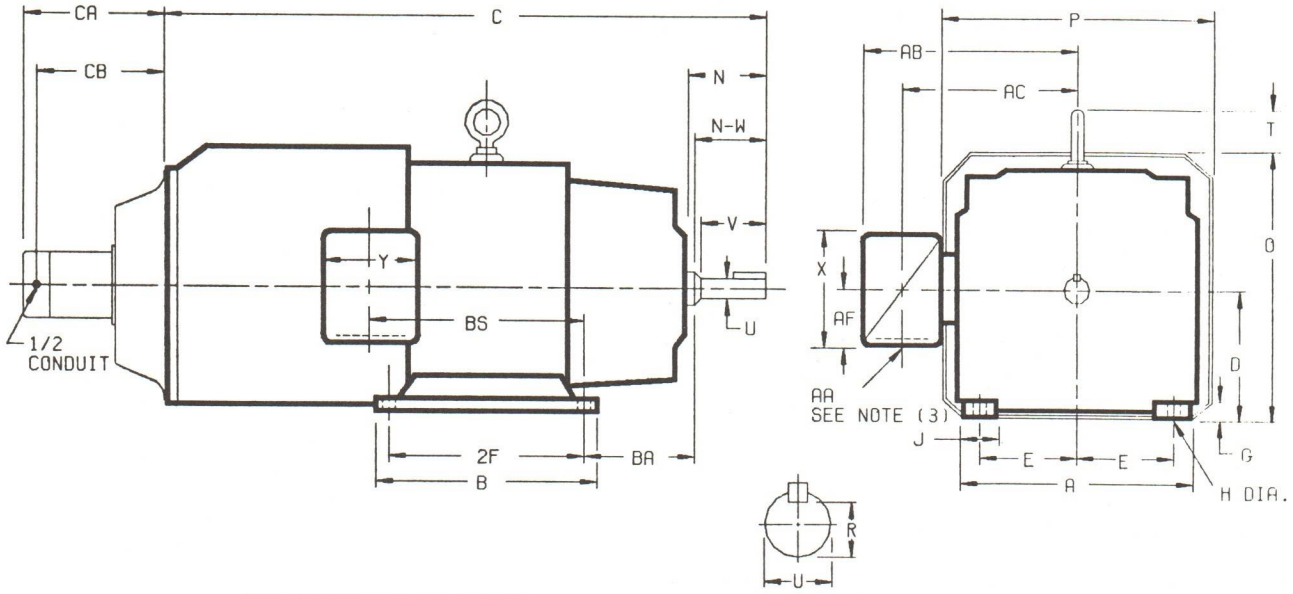
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

D/S 609901-51 • February 2, 1979

TEAO INLINE
Frames B180ATZ thru B280ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: AIR-OVER IN LINE



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	T	BA	CA	CB
B1811ATZ-B1812ATZ	8.50	4.50	3.75	.38	.44	1.25	9.50	10.00	1.50	2.75	10.00	9.00
B2111ATZ-B2112ATZ	10.00	5.25	4.25	.38	.44	1.62	11.00	11.50	1.75	3.50	10.12	9.12
B2510ATZ-B2511ATZ	12.00	6.25	5.00	.38	.56	1.75	13.06	13.62	2.25	4.25	10.12	9.12
B2810ATZ-B2811ATZ	13.50	7.00	5.50	.50	.56	2.25	14.50	15.25	2.38	4.75	10.56	9.56

FRAME	C	B	BS	2F	DRIVE END SHAFT AND KEY							WT.
					N	N-W	U(2)	V	R(4)	SQ.	LGTH	LBS.
B1811ATZ	27.31	13.75	11.00	12.50	3.00	2.75	1.3750	2.50	1.201	.312	1.75	220
B1812ATZ	28.81	15.25	12.50	14.00	3.00	2.75	1.3750	2.50	1.201	.312	1.75	240
B2111ATZ	31.38	15.25	12.56	14.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	340
B2112ATZ	33.88	17.25	15.06	16.00	3.50	3.25	1.625	3.00	1.416	.375	2.25	380
B2510ATZ	35.97	17.50	14.12	16.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	480
B2511ATZ	37.97	19.50	16.12	18.00	4.00	3.75	1.875	3.50	1.591	.500	2.50	530
B2810ATZ	39.25	19.50	15.62	18.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	750
B2811ATZ	41.00	21.50	17.38	20.00	4.50	4.25	2.125	4.00	1.845	.500	3.00	810

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B180ATZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.

(2) "U" VARIES — UP TO 1.625 DIA. +.0000, -.0005.
1.625 AND LARGER +.000, -.001.

(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.

(4) "R" VARIES +.000, -.015.

(5) TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.

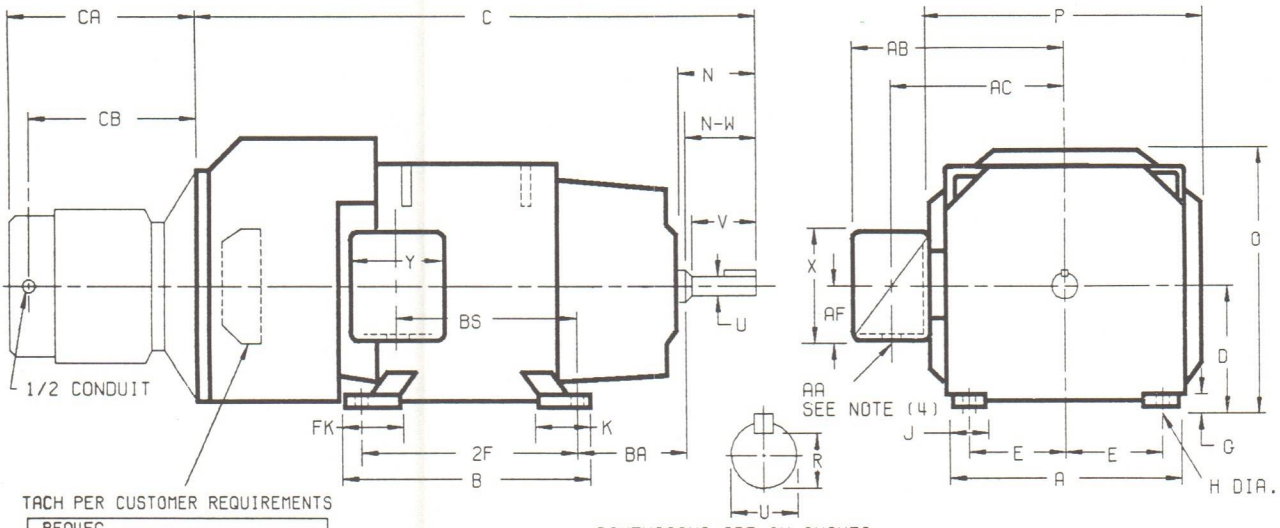
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.
FOR CAST IRON TERMINAL BOX DIMENSIONS SEE 609901-27-C

TEAO INLINE
Frames B320ATZ thru B360ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: AIR-OVER
IN-LINE
ACCESSORIES: FLANGE MOUNTED
TACHOMETER



TACH PER CUSTOMER REQUIREMENTS

REO45G
TGF-2100-00-A
DYNAPAR 74C (8)

DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	BA	CA	CB
B320ATZ-CD320ATZ	16.00	8.00	6.25	.50	.69	2.75	16.62	17.25	5.25	10.38	9.38
B360ATZ-BB360ATZ	18.00	9.00	7.00	.62	.81	2.88	18.62	19.25	5.88	12.50	10.56

FRAME	C		B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT. LBS.
	STD.	LG.(3)						N	N-W	U(2)	V	R(7)	SQ.	LGTH	
B327ATZ-BB327ATZ	39.69	42.69	15.88	12.25	14.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	820
B328ATZ-BB328ATZ	40.69	43.69	17.88	13.25	16.00	5.31	6.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	860
AB328ATZ-CB328ATZ	41.69	44.69	17.88	14.25	16.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	900
B366ATZ-BB366ATZ	40.81	44.31	16.00	12.12	14.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	920
B367ATZ-BB367ATZ	42.31	45.81	18.00	13.62	16.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1060
B368ATZ-BB368ATZ	44.81	48.31	20.00	16.12	18.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1230
B369ATZ-BB369ATZ	46.31	49.81	22.00	17.62	20.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1340
B3610ATZ-BB3610ATZ	47.31	50.81	24.00	18.62	22.00	5.50	7.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1420

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B320ATZ	128	2	14.75	11.25	4.25	8.44	7.25	74874-R	3	15.19	11.94	4.25	8.44	7.25	74874-24-R
	185	3	15.19	11.94	4.25	8.44	7.25	74874-24-R	4	16.69	12.62	5.38	10.56	9.00	700308-3-R
	269	4	16.69	12.62	5.38	10.56	9.00	700308-3-R	5	19.69	14.44	7.00	12.75	15.00	76870-9-R
B360ATZ	128	2	15.75	12.25	4.25	8.44	7.25	74874-R	3	16.19	12.94	4.25	8.44	7.25	74874-24-R
	185	3	16.19	12.94	4.25	8.44	7.25	74874-24-R	4	17.69	13.62	5.38	10.56	9.00	700308-3-R
	269	4	17.69	13.62	5.38	10.56	9.00	700308-3-R	5	20.69	15.44	7.00	12.75	15.00	76870-9-R
	500	5	20.69	15.44	7.00	12.75	15.00	76870-9-R	6	20.69	15.44	7.00	12.75	15.00	76870-9-S

CAST IRON TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B320ATZ	128	2	13.50	11.06	3.00	6.00	7.00	75460-T	3	15.19	11.44	3.62	7.88	9.25	76700-RB
	185	3	15.19	11.44	3.62	7.88	9.25	76700-RB	4	16.50	12.31	4.12	9.50	10.50	76708-RR
	269	4	16.50	12.31	4.12	9.50	10.50	76708-RR	5	19.69	14.44	7.00	12.75	15.00	76870-S
B360ATZ	128	2	14.50	12.06	3.00	6.00	7.00	75460-T	3	16.19	12.44	3.62	7.88	9.25	76700-RB
	185	3	16.19	12.44	3.62	7.88	9.25	76700-RB	4	17.50	13.31	4.12	9.50	10.50	76708-RR
	269	4	17.50	13.31	4.12	9.50	10.50	76708-RR	5	20.69	15.44	7.00	12.75	15.00	76870-S
	500	5	20.69	15.44	7.00	12.75	15.00	76870-S	6	20.69	15.44	7.00	12.75	15.00	76870-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000, -.001.
(3) FRAMES PREFIXED BY "BB" OR "CB"
(4) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.
(5) AA CONDUIT
(6) AA PIPE TAP
(7) "R" VARIES +.000, -.015.
(8) WHEN USING DYNAPAR 74C ON B320ATZ ADD .31 TO "C" DIMENSION: ON B360ATZ ADD .50 TO "C" DIMENSION

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING, OR TOP MOUNTED WHEN SPECIFIED.

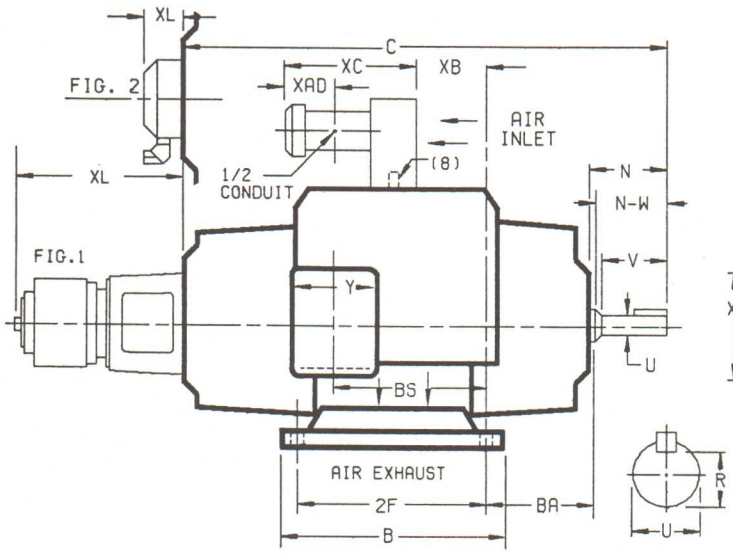
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

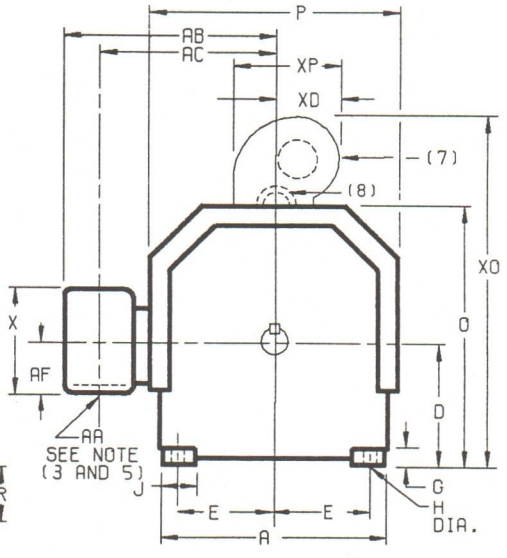
D/S 609901-45 • June 24, 1980

TEAO PIGGY-BACK
Frames B180ATZ thru B280ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: AIROVER-SHROUDED WITH INTEGRAL BLOWER AND MOTOR
ACCESSORIES: FLANGE MOUNTED TACHOMETER





DIMENSIONS ARE INCHES

FRAME	A	D(1)	E	G	H	J	O	P	BA	XAD	XC	XD	XO	XP
B1811ATZ-B1812ATZ	8.50	4.50	3.75	.38	.44	1.25	10.44	10.44	2.75	1.00	10.88	7.06	19.00	9.00
B2111ATZ-B2112ATZ	10.00	5.25	4.25	.38	.44	1.62	12.00	11.81	3.50	1.00	11.62	8.81	22.31	11.00
B2510ATZ-B2511ATZ	12.00	6.25	5.00	.38	.56	1.75	14.31	13.75	4.25	1.94	12.00	8.81	25.00	11.00
B289ATZ-B2811ATZ	13.50	7.00	5.50	.50	.56	2.25	16.56	15.12	4.75	1.94	12.19	8.81	26.88	11.00

FRAME	C	B	BS	2F	XB	DRIVE END SHAFT AND KEY							WT.
						N	N-W	U(2)	V	R(4)	SQ.	LGTH	LBS.
B1811ATZ	23.75	13.75	11.00	12.50	4.94	3.00	2.75	1.3750	2.50	1.201	.312	1.75	195
B1812ATZ	25.25	15.25	12.50	14.00	5.69	3.00	2.75	1.3750	2.50	1.201	.312	1.75	215
B2111ATZ	27.50	15.25	12.56	14.00	5.38	3.50	3.25	1.625	3.00	1.416	.375	2.25	320
B2112ATZ	30.00	17.25	15.06	16.00	6.62	3.50	3.25	1.625	3.00	1.416	.375	2.25	370
B2510ATZ	31.75	17.50	14.12	16.00	6.06	4.00	3.75	1.875	3.50	1.591	.500	2.50	440
B2511ATZ	33.75	19.50	16.12	18.00	7.06	4.00	3.75	1.875	3.50	1.591	.500	2.50	490
B289ATZ	33.88	17.50	14.38	16.00	6.12	4.50	4.25	2.125	4.00	1.845	.500	3.00	670
B2810ATZ	35.12	19.50	15.62	18.00	6.75	4.50	4.25	2.125	4.00	1.845	.500	3.00	710
B2811ATZ	36.88	21.50	17.38	20.00	7.62	4.50	4.25	2.125	4.00	1.845	.500	3.00	770

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B180ATZ	40	3/4 & 1"	7.31	5.75	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	8.31	6.31	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	9.44	6.69	3.19	7.00	7.62	705030-1-R
B210ATZ	40	3/4 & 1"	8.19	6.62	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	9.19	7.19	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	10.31	7.56	3.19	7.00	7.62	705030-1-R
B250ATZ	40	3/4 & 1"	9.38	7.81	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	10.38	8.38	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	11.50	8.75	3.19	7.00	7.62	705030-1-R
B280ATZ	40	3/4 & 1"	10.25	8.69	1.94	4.38	5.00	705028-1-R	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R
	96	1 1/4 & 1 1/2	11.25	9.25	2.50	5.50	6.12	705029-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R
	208	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R	2" & 2 1/2	12.38	9.62	3.19	7.00	7.62	705030-1-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .03 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES — UP TO 1.625 DIA. +.0000, -.0005. 1.625 AND LARGER +.000, -.001.
(3) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.
(4) "R" VARIES +.000, -.015.
(5) AA CONDUIT. TERMINAL BOX PROVIDED WITH DOUBLE KNOCKOUT.
(6) OPPOSITE DRIVE END SHAFT SUPPLIED ONLY WHEN SPECIFIED
(7) BLOWER ASSEMBLY NOT MOUNTED IN SHIPMENT TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING IS SPECIFIED.
(8) LIFTING MEANS LOCATED UNDER BLOWER HSG WHEN COMPLETE IF MOUNTING CLEARANCE DETAILS ARE REQUIRED. CONSULT FACTORY.

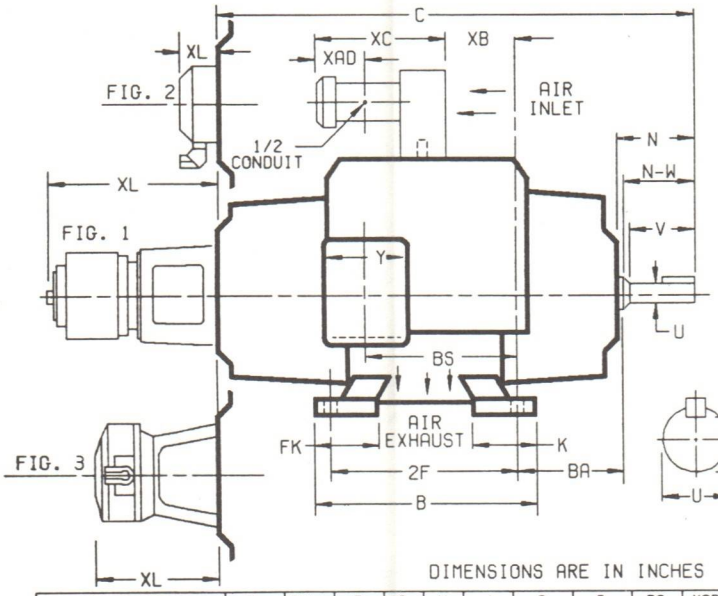
FOR CAST IRON TERMINAL BOX SEE 609901-19-C

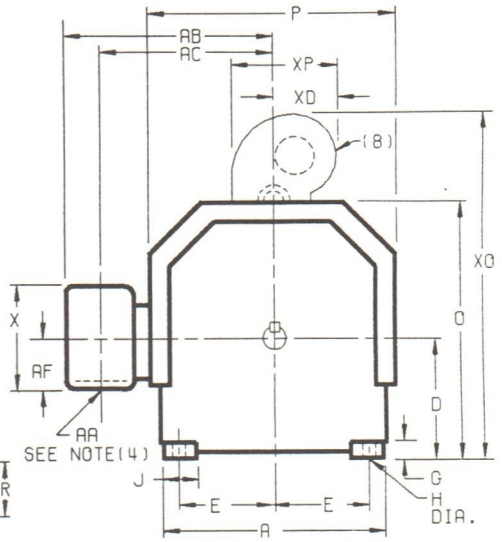
TEAO PIGGY-BACK
Frames B320ATZ thru B360ATZ

ENCLOSURE: TOTALLY ENCLOSED
MOUNTING: FOOT
METHOD OF DRIVE: COUPLED OR BELTED

COOLING: AIROVER-SHROUDED WITH INTEGRAL BLOWER AND MOTOR

ACCESSORIES: FLANGE MOUNTED TACHOMETER





DIMENSIONS ARE IN INCHES

FRAMESIZE	A	D(1)	E	G	H	J	O	P	BA	XAD	XC	XD	XO	XP
B327ATZ-AB328ATZ	16.00	8.00	6.25	.50	.69	2.75	18.50	17.25	5.25	1.94	15.19	15.16	36.19	18.69
BB327ATZ-CB328ATZ	16.00	8.00	6.25	.50	.69	2.75	18.50	17.25	5.25	1.94	15.19	15.16	36.19	18.69
B366ATZ-B3610ATZ	18.00	9.00	7.00	.62	.81	2.88	20.50	19.25	5.88	1.94	15.19	15.16	38.19	18.69
BB366ATZ-BB3610ATZ	18.00	9.00	7.00	.62	.81	2.88	20.50	19.25	5.88	1.94	15.19	15.16	38.19	18.69

FRAME	C		B	BS	2F	K	FK	XB	DRIVE END SHAFT AND KEY							WT.
	STD.	LG.(3)							N	N-W	U(2)	V	R(7)	SQ.	LGTH	(LBS)
B327ATZ-BB327ATZ	32.62	35.62	15.88	12.25	14.00	5.31	5.31	4.81	5.00	4.75	2.375	4.50	2.021	.625	3.50	850
B328ATZ-BB328ATZ	33.62	36.62	17.88	13.25	16.00	5.31	6.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	890
AB328ATZ-CB328ATZ	34.62	37.62	17.88	14.25	16.00	5.31	5.31	5.81	5.00	4.75	2.375	4.50	2.021	.625	3.50	930
B366ATZ-BB366ATZ	33.88	37.38	16.00	12.12	14.00	5.50	5.50	4.62	5.50	5.25	2.625	5.00	2.275	.625	4.00	940
B367ATZ-BB367ATZ	35.38	38.88	18.00	13.62	16.00	5.50	6.00	5.38	5.50	5.25	2.625	5.00	2.275	.625	4.00	1090
B368ATZ-BB368ATZ	37.88	41.38	20.00	16.12	18.00	5.50	5.50	6.62	5.50	5.25	2.625	5.00	2.275	.625	4.00	1260
B369ATZ-BB369ATZ	39.38	42.88	22.00	17.62	20.00	5.50	6.00	7.38	5.50	5.25	2.625	5.00	2.275	.625	4.00	1370
B3610ATZ-BB3610ATZ	40.38	43.88	24.00	18.62	22.00	5.50	7.00	7.88	5.50	5.25	2.625	5.00	2.275	.625	4.00	1450

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

STEEL TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(5)	AB	AC	AF	X	Y		AA(5)	AB	AC	AF	X	Y	
B320ATZ	128	2	14.75	11.25	4.25	8.44	7.25	74874-R	3	15.19	11.94	4.25	8.44	7.25	74874-24-R
	185	3	15.19	11.94	4.25	8.44	7.25	74874-24-R	4	16.69	12.62	5.38	10.56	9.00	700308-3-R
	269	4	16.69	12.62	5.38	10.56	9.00	700308-3-R	5	19.69	14.44	7.00	12.75	15.00	76870-9-R
B360ATZ	128	2	15.75	12.25	4.25	8.44	7.25	74874-R	3	16.19	12.94	4.25	8.44	7.25	74874-24-R
	185	3	16.19	12.94	4.25	8.44	7.25	74874-24-R	4	17.69	13.62	5.38	10.56	9.00	700308-3-R
	269	4	17.69	13.62	5.38	10.56	9.00	700308-3-R	5	20.69	15.44	7.00	12.75	15.00	76870-9-R
	500	5	20.69	15.44	7.00	12.75	15.00	76870-9-R	6	20.69	15.44	7.00	12.75	15.00	76870-9-S

CAST IRON TERMINAL BOX DIMENSIONS

FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER						PART NUMBER
		AA(6)	AB	AC	AF	X	Y		AA(6)	AB	AC	AF	X	Y	
B320ATZ	128	2	13.50	11.06	3.00	6.00	7.00	75460-T	3	15.19	11.44	3.62	7.88	9.25	76700-RB
	185	3	15.19	11.44	3.62	7.88	9.25	76700-RB	4	16.50	12.31	4.12	9.50	10.50	76708-RR
	269	4	16.50	12.31	4.12	9.50	10.50	76708-RR	5	19.69	14.44	7.00	12.75	15.00	76870-S
B360ATZ	128	2	14.50	12.06	3.00	6.00	7.00	75460-T	3	16.19	12.44	3.62	7.88	9.25	76700-RB
	185	3	16.19	12.44	3.62	7.88	9.25	76700-RB	4	17.50	13.31	4.12	9.50	10.50	76708-RR
	269	4	17.50	13.31	4.12	9.50	10.50	76708-RR	5	20.69	15.44	7.00	12.75	15.00	76870-S
	500	5	20.69	15.44	7.00	12.75	15.00	76870-S	6	20.69	15.44	7.00	12.75	15.00	76870-R

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000, -.001
(3) FRAMES PREFIXED BY "BB" OR "CB"
(4) TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(5) AA CONDUIT
(6) AA PIPE TAP
(7) "R" VARIES +.000, -.015
(8) BLOWER ASSEMBLY NOT MOUNTED TO MOTOR IN SHIPMENT. LIFTING MEANS LOCATED UNDER BLOWER HOUSING IN COMPLETE MOTOR ASSEMBLY.

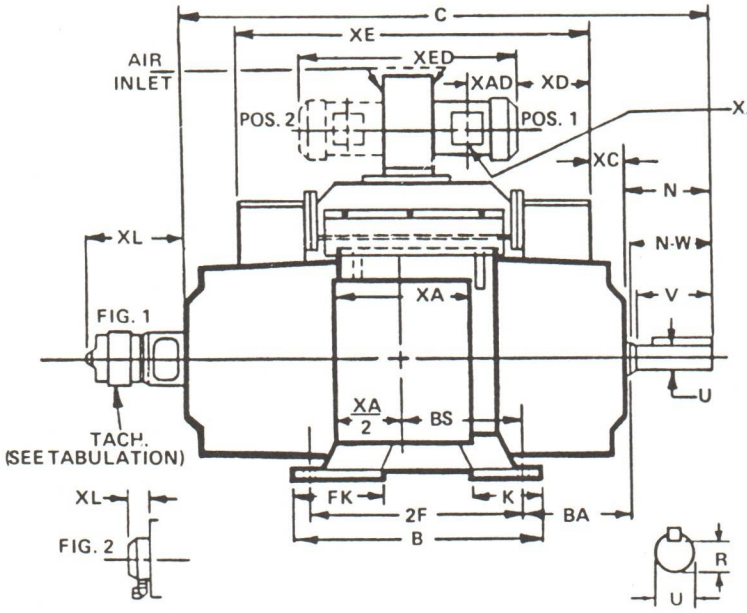
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1,W-4,W-5,W-7 OR C-1 MOUNTING IS SPECIFIED.

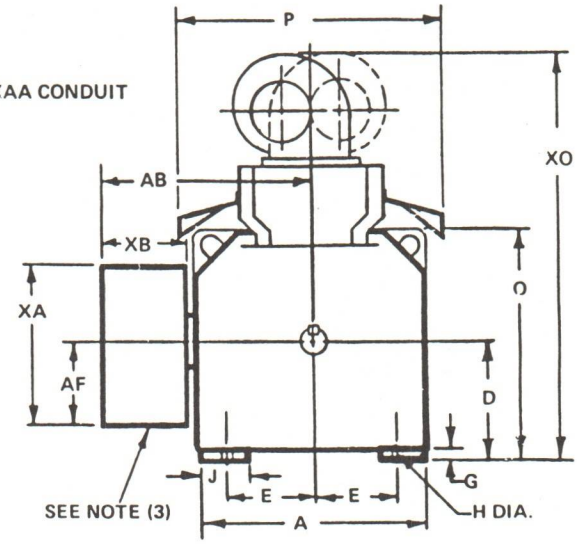
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

TEAO PIGGY-BACK
Frames B400ATZ thru B500ATZ

ENCLOSURE: TOTALLY ENCLOSED AIR-OVER
MOUNTING: FOOT

COOLING: BLOWER COOLED
ACCESSORIES: FLANGE MOUNTED TACHOMETERS





DIMENSIONS ARE IN INCHES

FRAME	A	D (1)	E	G	H	J	O	P	AB	AF	BA	XA	XB	XC	XD	XO	XAA	XAD	XED
B400ATZ - UB400ATZ	19.88	10.00	8.00	.81	1.06	3.25	20.25	23.00	23.38	7.00	6.62	14.00	12.00	2.18	1.12	42.00	1/2	4.12	26.50
B500ATZ - UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	29.25	25.94	7.00	8.50	14.00	12.00	2.81	5.00	51.50	1/2	4.12	26.50

FRAME	DUTY	C	B	BS	2F	K	FK	XE	DRIVE END SHAFT AND KEY							WT. (LBS.)
									N	N-W	U (2)	V	R (4)	SQ.	LGTH.	
UB408ATZ	BELTED	44.50	22.50	12.50	20.00	6.00	6.00	32.25	6.88	6.50	3.250	6.25	2.831	.750	5.00	2000
B408ATZ	COUPLED	43.75	22.50	12.50	20.00	6.00	6.00	32.25	6.12	5.75	2.875	5.50	2.450	.750	4.25	1995
UB409ATZ	BELTED	47.75	24.50	15.75	22.00	6.00	6.00	35.50	6.88	6.50	3.250	6.25	2.831	.750	5.00	2275
B409ATZ	COUPLED	47.00	24.50	15.75	22.00	6.00	6.00	35.50	6.12	5.75	2.875	5.50	2.450	.750	4.25	2270
UB506ATZ	BELTED	50.62	22.50	12.12	20.00	6.50	6.50	33.75	8.62	8.25	4.125	8.00	3.563	1.000	6.50	2850
B506ATZ	COUPLED	49.62	22.50	12.12	20.00	6.50	6.50	33.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	2820
UB507ATZ	BELTED	53.62	24.50	15.12	22.00	6.50	6.50	36.75	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3280
B507ATZ	COUPLED	52.62	24.50	15.12	22.00	6.50	6.50	36.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	3250
UB508ATZ	BELTED	56.62	27.50	18.12	25.00	6.50	6.50	39.75	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3675
B508ATZ	COUPLED	55.62	27.50	18.12	25.00	6.50	6.50	39.75	7.62	7.25	3.625	7.00	3.134	.875	5.75	3645

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000, -.001
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES, OR BOTTOM.
(4) "R" VARIES +.000, -.015

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

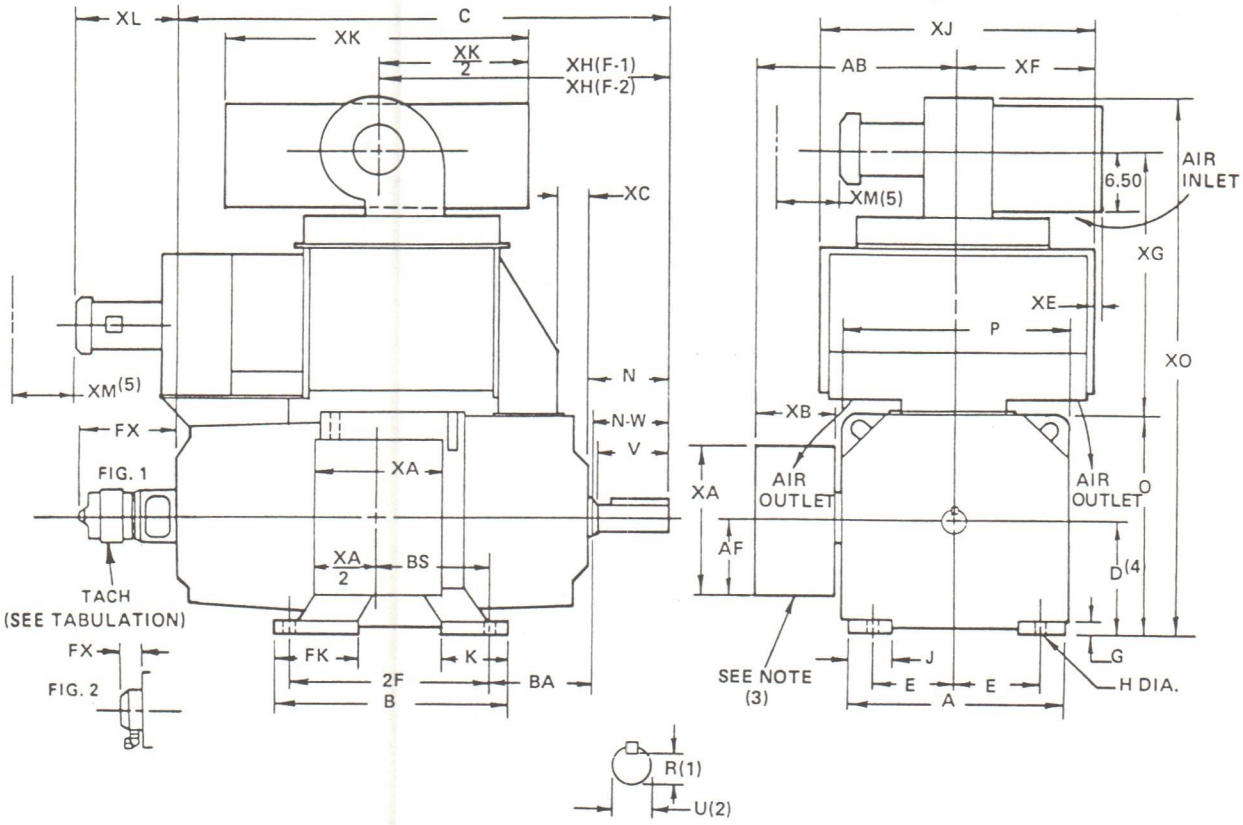
TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7, OR C-1 MOUNTING IS SPECIFIED.
IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

TEDC
Frames EB500ATZ

ENCLOSURE: TOTALLY ENCLOSED

MOUNTING: FOOT

COOLING: AIR TO AIR
DUAL COOLED
ACCESSORIES: FLANGE MOUNTED
TACHOMETERS



DIMENSIONS ARE IN INCHES (SEE SHEET 2 FOR DIMENSIONS IN MILLIMETERS)

FRAME	A	D(4)	E	G	H	J	O	P	AB	AF	BA	XA	XB	XO	XJ	XC	XE	XF	XG
B500ATZ-UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	25.75	25.44	7.00	8.50	14.00	12.00	67.50	31.50	2.68	1.25	15.75	33.00

FRAME	DUTY	C	B	BS	2F	K	FK	XH (F-1)	XH (F-2)	XK	XL	XM	DRIVE END SHAFT AND KEY							WT. (LBS.)
													N	N-W	U(2)	V	R(1)	SQ.	LGTH	
UB506ATZ	BELTED	50.62	22.50	13.25	20.00	6.50	6.50	33.88	24.38	36.00	17.25	7.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3325
B506ATZ	COUPLED	49.62	22.50	13.25	20.00	6.50	6.50	32.88	23.38	36.00	17.25	7.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3295
UB507ATZ	BELTED	53.62	24.50	16.25	22.00	6.50	6.50	33.88	24.38	36.00	14.25	7.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3755
B507ATZ	COUPLED	52.62	24.50	16.25	22.00	6.50	6.50	32.88	23.38	36.00	14.25	7.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3750
UB508ATZ	BELTED	56.62	27.50	19.25	25.00	6.50	6.50	33.88	24.38	36.00	11.25	7.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	4150
B508ATZ	COUPLED	55.62	27.50	19.25	25.00	6.50	6.50	32.88	23.38	36.00	11.25	7.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	4120

(1) THIS DIMENSION VARIES +.000 -.015
(2) THIS DIMENSION VARIES +.000 -.001
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR LEAD OUTLET AT TOP, SIDES OR BOTTOM.
(4) THIS DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS WILL USUALLY BE REQUIRED FOR COUPLED OR GEARED MACHINES.
(5) MINIMUM CLEARANCE REQUIRED FOR BLOWER MOTOR REMOVAL.

UNIT SHOWN IS F-1 MOUNTING FOR F-2 MOUNTING, TERMINAL BOX WILL BE LOCATED ON OPPOSITE SIDE, TOP BLOWER ASSEMBLY WILL BE ROTATED 180°, AND INTERNAL AIR BLOWER MOTOR WILL BE ROTATED 180°.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

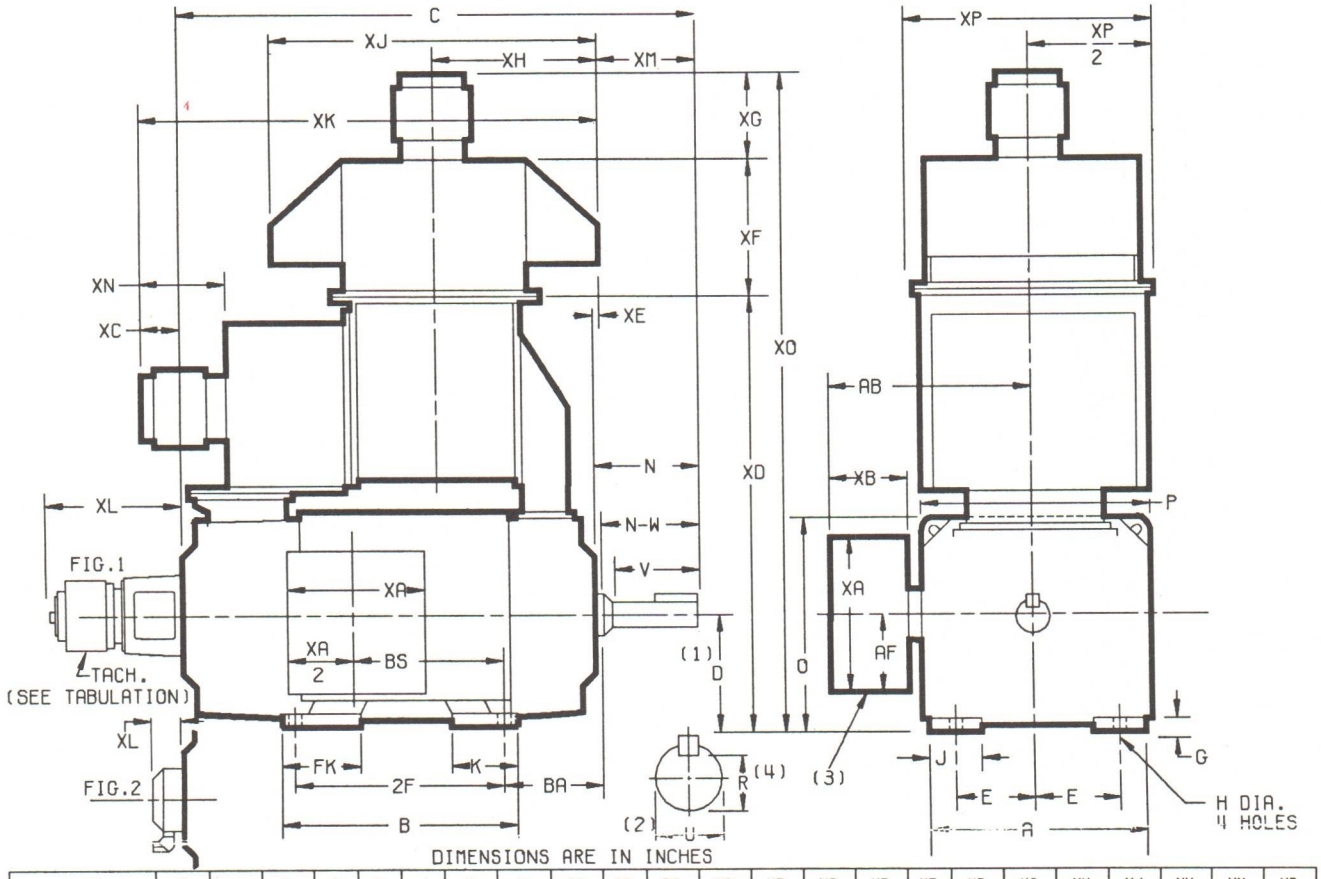
D/S 609905-325 • March 16, 1982

TEDC
Frames FB500ATZ thru FB680ATZ

ENCLOSURE: TOTALLY ENCLOSED

MOUNTING: FOOT

COOLING: AIR TO AIR
DUAL COOLED
ACCESSORIES: FLANGE MOUNTED
TACHOMETERS



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	AB	AF	BA	XA	XB	XO	XD	XE	XF	XG	XH	XJ	XK	XN	XP
B500ATZ-UB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	25.38	25.75	25.44	7.00	8.50	14.00	12.00	82.25	54.00	1.25	15.06	12.57	20.75	41.50	58.44	12.75	32.25
B580ATZ-UB580ATZ	28.50	14.50	11.50	1.25	1.44	4.50	29.25	29.50	27.75	9.50	10.00	19.00	12.00	86.12	57.88	1.62	15.06	12.57	20.75	41.50	64.57	12.75	32.25
B680ATZ	33.50	17.00	13.50	1.50	1.44	5.00	34.50	35.00	30.25	9.50	11.50	19.00	12.00	91.38	62.88	.12	15.06	12.57	20.75	41.50	69.32	12.75	32.25

FRAME	DUTY	C	B	BS	2F	K	FK	XM	XC	DRIVE END SHAFT AND KEY							WT.
										N	N-W	U(2)	V	R(4)	SQ.	LGTH.	(LBS.)
UB506ATZ	BELTED	50.63	22.50	12.12	20.00	6.50	6.50	7.38	15.25	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3800
B506ATZ	COUPLED	49.63	22.50	12.12	20.00	6.50	6.50	6.38	15.25	7.62	7.25	3.625	7.00	3.134	.875	5.75	3770
UB507ATZ	BELTED	53.63	24.50	15.12	22.00	6.50	6.50	7.38	12.25	8.62	8.25	4.125	8.00	3.563	1.000	6.50	4230
B507ATZ	COUPLED	52.63	24.50	15.12	22.00	6.50	6.50	6.38	12.25	7.62	7.25	3.625	7.00	3.134	.875	5.75	4200
UB508ATZ	BELTED	56.63	27.50	18.12	25.00	6.50	6.50	7.38	9.25	8.62	8.25	4.125	8.00	3.563	1.000	6.50	4625
B508ATZ	COUPLED	55.63	27.50	18.12	25.00	6.50	6.50	6.38	9.25	7.62	7.25	3.625	7.00	3.134	.875	5.75	4595
UB587ATZ	BELTED	58.19	28.50	15.62	25.00	8.00	9.00	7.25	13.69	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5755
B587ATZ	COUPLED	58.19	28.50	15.62	25.00	8.00	9.00	7.25	13.69	8.88	8.25	4.125	8.00	3.563	1.000	6.50	5755
UB588ATZ	BELTED	61.19	31.50	18.62	28.00	8.00	9.00	7.25	10.69	8.88	8.25	4.125	8.00	3.563	1.000	6.50	6340
B588ATZ	COUPLED	61.19	31.50	18.62	28.00	8.00	9.00	7.25	10.69	8.88	8.25	4.125	8.00	3.563	1.000	6.50	6340
UB589ATZ	BELTED	63.69	35.50	21.12	32.00	8.00	10.00	7.25	8.19	8.88	8.25	4.125	8.00	3.563	1.000	6.50	6740
B589ATZ	COUPLED	63.69	35.50	21.12	32.00	8.00	10.00	7.25	8.19	8.88	8.25	4.125	8.00	3.563	1.000	6.50	6740
B686ATZ	COUPLED	65.76	31.50	18.38	28.00	9.00	9.00	9.50	13.12	9.62	9.00	4.500	8.75	3.944	1.000	7.25	8080
B687ATZ	COUPLED	68.26	35.50	20.88	32.00	9.00	11.00	9.50	10.62	9.62	9.00	4.500	8.75	3.944	1.000	7.25	8750
B688ATZ	COUPLED	72.76	39.50	25.38	36.00	9.00	11.00	9.50	6.12	9.62	9.00	4.500	8.75	3.944	1.000	7.25	9910

TACHOMETER	XL	WT. LBS.	FIG.
RE-045	2.86	5	2
RE-045 WITH K45M1000	9.25	15	3
TGF-2100-00-A,-B,-D TGF-2100-02-D	2.69	5	2
5PY	11.00	12	1
BC-42	13.50	25	1
RE-210	15.44	35	1
BC-46	15.80	40	1
RD-51	16.75	45	1
RD-11,-12,-61,-62	10.19	15	1
M627, M628, M738	10.62	16	1

(1) THIS DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) THIS DIMENSION VARIES +.000, -.001
(3) CUSTOMER TO PROVIDE HOLE IN TERMINAL BOX FOR CONDUIT. TERMINAL BOX CAN BE TURNED FOR OUTLET AT TOP, SIDES, OR BOTTOM.
(4) THIS DIMENSION VARIES +.000, -.015.

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED, CONSULT FACTORY.

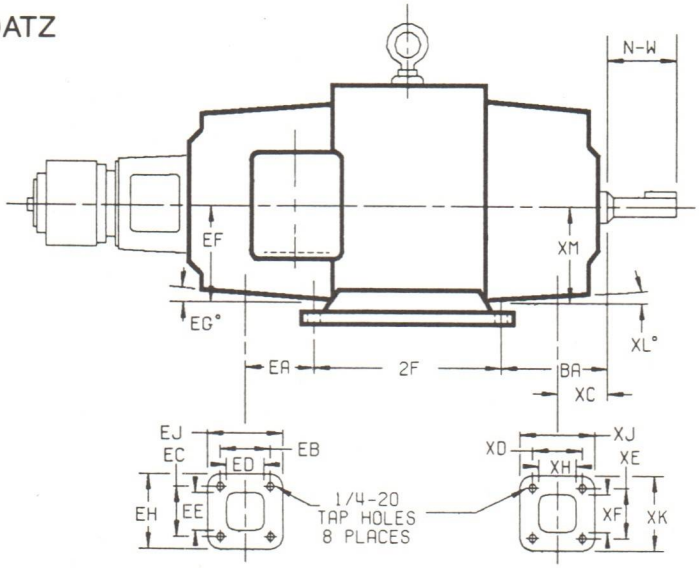
DO NOT LIFT MOTOR WITH HEAT EXCHANGER ATTACHED.

TE PIPE VENT
Frames B180ATZ thru B280ATZ
Frames B320ATZ thru B360ATZ

Frames B180ATZ thru B280ATZ

Reference
D/S 609903-53
July 3, 1979

FRAME	2F	EA	N-W
B1811ATZ	12.50	2.00	2.75
B1812ATZ	14.00	2.00	2.75
B2111ATZ	14.00	2.62	3.25
B2112ATZ	16.00	3.12	3.25
B2510ATZ	16.00	2.38	3.75
B2511ATZ	18.00	2.38	3.75
B289ATZ	16.00	3.12	4.25
B2810ATZ	18.00	2.38	4.25
B2811ATZ	20.00	2.12	4.25



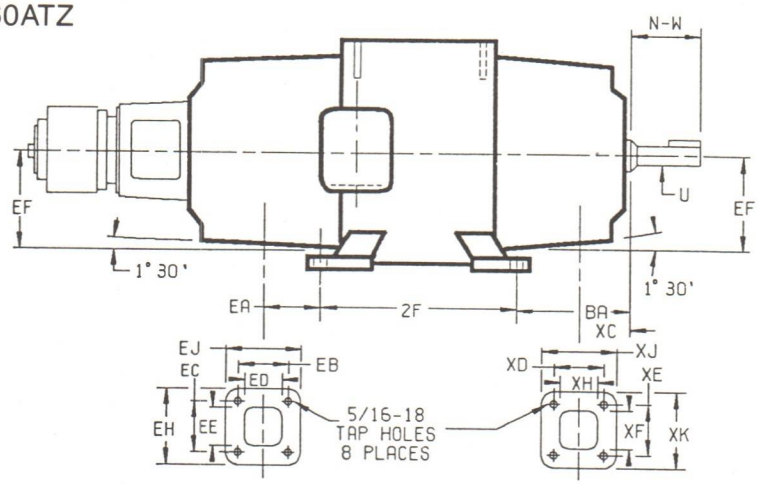
DIMENSIONS ARE IN INCHES

FRAME	BA	EB	EC	ED	EE	EF	EG	EH	EJ	XC	XD	XE	XF	XH	XJ	XK	XL°	XM
B1811ATZ-B1812ATZ	2.75	4.25	4.25	4.12	3.88	4.06	2°	4.75	4.75	3.00	2.88	4.25	4.38	2.12	3.38	4.88	2°	4.06
B2111ATZ-B2112ATZ	3.50	5.00	5.00	4.62	4.62	4.88	3°	5.62	5.62	3.25	2.88	4.88	4.88	2.25	3.50	5.50	3°	4.88
B2510ATZ-B2511ATZ	4.25	5.12	6.75	5.00	6.00	5.81	3°30'	7.38	5.75	3.81	3.00	6.75	6.75	2.38	3.62	7.38	3°	5.88
B289ATZ-B2811ATZ	4.75	5.25	7.00	4.75	6.50	6.44	4°30'	7.62	5.88	3.56	3.25	7.00	7.00	2.62	3.88	7.62	3°	6.38

Frames B320ATZ thru B360ATZ

Reference
D/S 609903-8
July 23, 1981

FRAME	2F	EA	N-W
B327ATZ-BB327ATZ	14.00	3.75	4.75
B328ATZ-BB328ATZ	16.00	2.75	4.75
AB328ATZ-CB328ATZ	16.00	3.75	4.75
B366ATZ-BB366ATZ	14.00	3.81	5.25
B367ATZ-BB367ATZ	16.00	3.31	5.25
B368ATZ-BB368ATZ	18.00	3.81	5.25
B369ATZ-BB369ATZ	20.00	3.31	5.25
B3610ATZ-BB3610ATZ	22.00	2.31	5.25

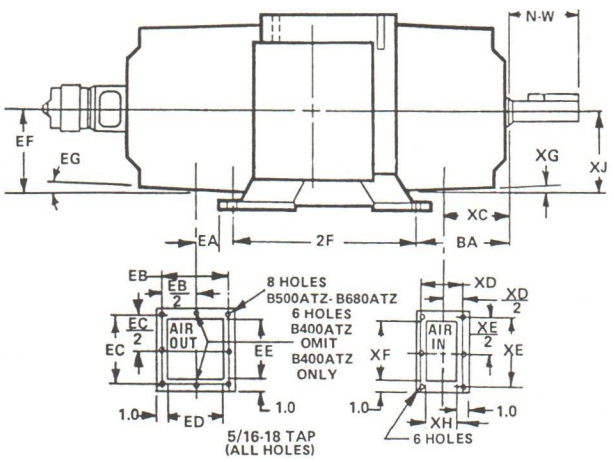


DIMENSIONS ARE IN INCHES

FRAME	BA	EB	EC	ED	EE	EF	EH	EJ	XC	XD	XE	XF	XH	XJ	XK
B320ATZ-CB320ATZ	5.25	5.38	8.88	5.00	8.00	7.00	9.50	6.00	4.38	3.88	8.88	8.00	3.50	4.50	9.50
B360ATZ-BB360ATZ	5.88	5.75	10.62	5.38	9.75	7.75	11.25	6.38	4.50	4.38	10.62	9.75	4.00	5.00	11.25

TE PIPE VENT
Frames B400ATZ thru B680ATZ
Frames B840AT

Frames B400ATZ thru B680ATZ



DIMENSIONS ARE IN INCHES

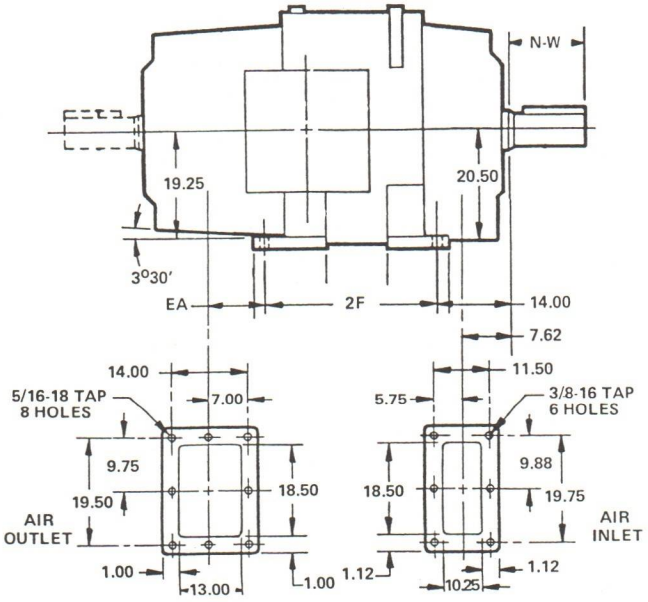
FRAME	BA	EB	EC	ED	EE	EF	EG
B400ATZ-UB400ATZ	6.62	9.50	11.00	8.75	10.25	8.88	3° 00′
B500ATZ-UB500ATZ	8.50	11.00	14.00	10.00	13.00	11.38	3° 00′
B580ATZ	10.00	10.25	16.00	9.25	15.00	12.75	3° 30′
B680ATZ	11.50	12.25	20.00	11.25	19.00	15.25	3° 30′

FRAME	XC	XD	XE	XF	XG	XH	XJ
B400ATZ-UB400ATZ	4.81	5.50	11.00	10.25	3°00′	4.75	9.12
B500ATZ-UB500ATZ	6.44	7.50	14.00	13.00	0°00′	6.50	12.25
B580ATZ	7.38	7.00	16.00	15.00	0°00′	6.00	14.25
B680ATZ	7.88	9.00	20.00	19.00	0°00′	8.00	16.75

FRAME	DUTY	EA	2F	N-W
UB408ATZ	BELTED	4.62	20.00	6.50
B408ATZ	COUPLED	4.62	20.00	5.75
UB409ATZ	BELTED	5.88	22.00	6.50
B409ATZ	COUPLED	5.88	22.00	5.75
UB4010ATZ	BELTED	4.88	25.00	6.50
B4010ATZ	COUPLED	4.88	25.00	5.75
UB506ATZ	BELTED	5.12	20.00	8.25
B506ATZ	COUPLED	5.12	20.00	7.25
UB507ATZ	BELTED	6.12	22.00	8.25
B507ATZ	COUPLED	6.12	22.00	7.25
UB508ATZ	BELTED	6.12	25.00	8.25
B508ATZ	COUPLED	6.12	25.00	7.25
UB587ATZ	BELTED	5.88	25.00	8.25
B587ATZ	COUPLED	5.88	25.00	8.25
UB588ATZ	BELTED	5.88	28.00	8.25
B588ATZ	COUPLED	5.88	28.00	8.25
UB589ATZ	BELTED	4.38	32.00	8.25
B589ATZ	COUPLED	4.38	32.00	8.25
B686ATZ	COUPLED	6.81	28.00	9.00
B687ATZ	COUPLED	5.31	32.00	9.00
B688ATZ	COUPLED	5.81	36.00	9.00

Reference
D/S 609903-4
February 2, 1979

Frames B840AT



DIMENSIONS ARE IN INCHES

FRAME	DUTY	2F	EA	N-W
B842AT	COUPLED(2)	22.00	14.12	11.50
B843AT	COUPLED(2)	25.00	13.62	11.50
B844AT	COUPLED(2)	28.50	12.62	11.50
B845AT	COUPLED	32.00	12.12	11.50
B845ATZ	COUPLED(2)	32.00	12.12	13.00
B846AT	COUPLED	36.00	10.62	11.50
B846ATZ	COUPLED(2)	36.00	10.62	13.00
B847AT	COUPLED	40.00	9.12	11.50
B847ATZ	COUPLED(2)	40.00	9.12	13.00

(2) TANDEM DRIVE.

Reference
D/S 609903-12
August 29, 1977

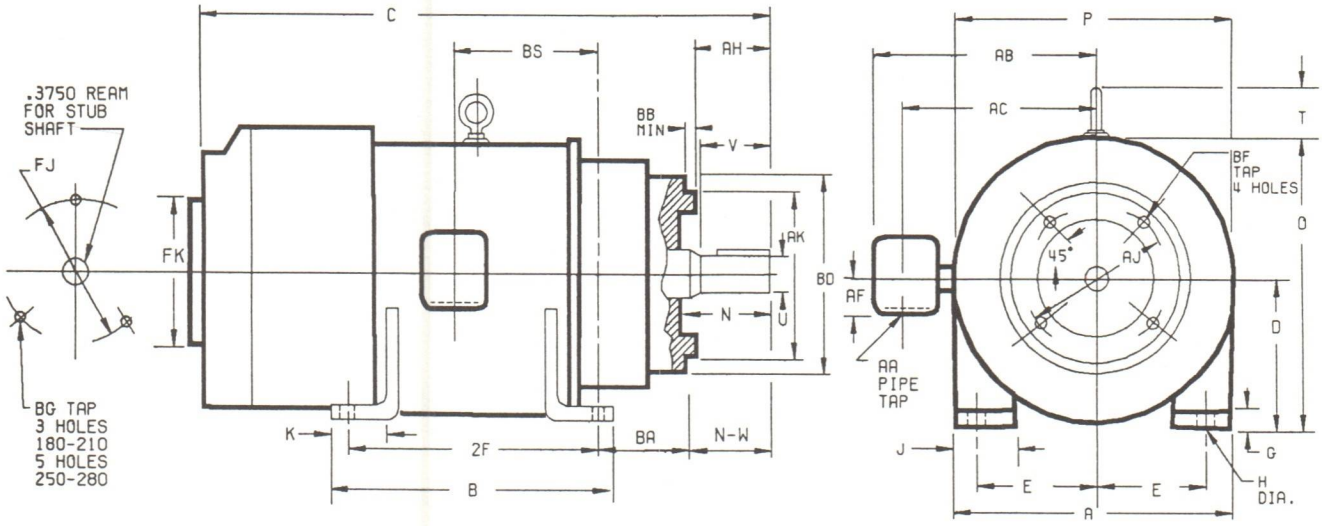
RELIANCE ELECTRIC

INTEGRAL HP.

TEFC • XP
Frames X180AY thru X280ACZ

ENCLOSURE: TOTALLY ENCLOSED
UNDERWRITERS CLASSIFICATION CLASS I. GROUP D OR CLASS II. GROUP F AND G
MOUNTING: FOOT. NEMA "C" FACE

COOLING: FAN COOLED
ACCESSORIES: PROVISION FOR TACHOMETER MOUNTING



DIMENSIONS ARE IN INCHES

FRAME	A	B	C	D(2)	E	2F	G	H	J	K	O	P	T	AJ	AK(4)	BA	BB	BD	BF	BS
X187AY(5)	9.00	9.75	22.38	4.50	3.75	8.00	.50	.44	1.50	1.38	9.38	9.75	1.50	7.25	8.500	3.38	.25	8.88	1/2-13	4.44
X215ACZ	10.50	8.75	22.00	5.25	4.25	7.00	.50	.44	2.00	1.38	10.88	11.25	1.50	7.25	8.500	3.62	.25	8.75	1/2-13	3.94
X216ACZ	10.50	9.75	23.62	5.25	4.25	8.00	.50	.44	2.00	1.38	10.88	11.25	1.50	7.25	8.500	3.50	.25	8.75	1/2-13	5.56
X254ACZ	12.50	10.25	25.38	6.25	5.00	8.25	.62	.56	2.50	1.75	12.88	13.12	1.94	7.25	8.500	4.25	.25	8.88	1/2-13	6.50
X284ACZ	13.75	12.00	29.69	7.00	5.50	9.50	.62	.56	2.50	2.00	14.38	14.69	1.94	9.00	10.500	4.75	.25	10.75	1/2-13	7.38
(1)																				

FRAME	ADAPTER MOUNTING			B.E.SHAFT EXT. & KEY							WT. (LBS)
	FK(4)	FJ	BG	N	N-W	U(3)	V	AH	SQ.	LGTH	
X187AY(5)	8.625	7.88	3/8-16	3.56	2.88	1.125	2.62	2.62	.250	1.75	170
X215ACZ	10.250	9.50	3/8-16	2.88	2.75	1.125	2.62	2.62	.250	1.88	218
X216ACZ	10.250	9.50	3/8-16	3.00	2.88	1.125	2.62	2.62	.250	2.00	251
X254ACZ	11.000	10.00	3/8-16	3.00	2.88	1.125	2.62	2.62	.250	2.25	310
X284ACZ	12.500	11.50	3/8-16	4.75	4.62	1.875	4.38	4.38	.500	3.25	411
(1)											

(1) SPECIAL DIMENSIONS APPLYING TO THIS ORDER ON THIS LINE.
(2) "D" VARIES +.00,-.03
(3) "U" AND "FU" VARY — UP TO 1.625 DIA. +.0000,-.0005; 1.625 DIA. AND LARGER +.000,-.001
(4) "AK" AND "FK" VARIES +.000,-.003
FACE RUNOUT AND ECCENTRICITY .004 MAX. T.I.R.
(5) SPCL MTG "C" FACE OF 8.500 "AK" ON X187 FRAME.

CONDUIT BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1,W-4,W-5,W-7 OR C-1 MOUNTING IS SPECIFIED.
CONSULT BOX SIZE VARIES WITH H.P., SEE APPLICABLE CONDUIT BOX DWG. 69296-
IF MOUNTING CLERANCE DETAILS ARE REQUIRED CONSULT FACTORY.

D/S 69203-485 • October 20, 1980

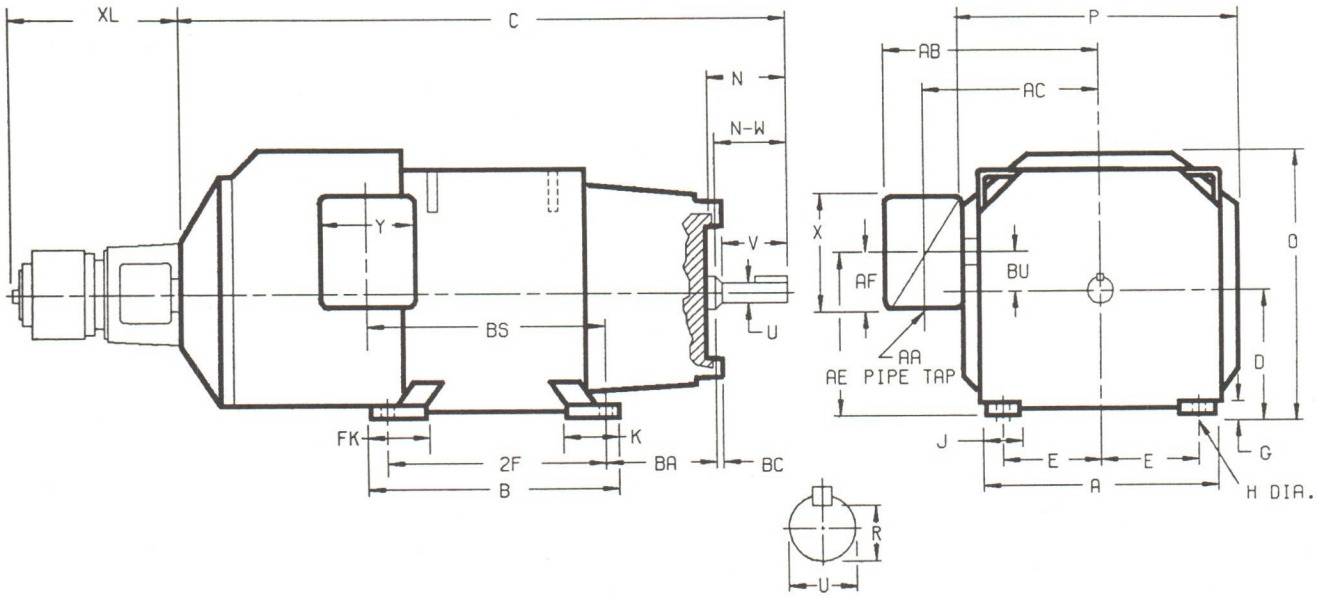
TEFC • XP
Frames XB320ATZ thru XB360ATZ

ENCLOSURE: TOTALLY ENCLOSED
UNDERWRITERS CLASSIFICATION
CLASS I. GROUP D OR
CLASS II. GROUP E. F. AND G

MOUNTING: FOOT

COOLING: FAN COOLED

ACCESSORIES: FLANGE MOUNTED TACHOMETER



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	AE	BA	BC	BU
XB320ATZ	16.00	8.00	6.25	.50	.69	2.75	16.62	17.25	11.50	5.25	.25	3.50
XB360ATZ	18.00	9.00	7.00	.62	.81	2.88	18.62	19.25	13.06	5.88	.25	4.06

FRAME	C	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT.
							N	N-W	U(2)	V	R(3)	SQ.	LGTH	LBS
XB327ATZ	40.06	15.88	13.94	14.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	990
XB328ATZ	41.06	17.88	14.94	16.00	5.31	6.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	1010
XAB328ATZ	42.06	17.88	15.94	16.00	5.31	5.31	5.00	4.75	2.375	4.50	2.021	.625	3.50	1050
XB366ATZ	41.94	16.00	14.12	14.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1145
XB367ATZ	43.44	18.00	15.62	16.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1185
XB368ATZ	45.94	20.00	18.12	18.00	5.50	5.50	5.50	5.25	2.625	5.00	2.275	.625	4.00	1380
XB369ATZ	47.44	22.00	19.62	20.00	5.50	6.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1495
XB3610ATZ	48.44	24.00	20.62	22.00	5.50	7.00	5.50	5.25	2.625	5.00	2.275	.625	4.00	1575

(4) TACH	XL	WT. (LBS)
BC42	14.94	30
BC46	16.06	40

CAST IRON EXPLOSION PROOF TERMINAL BOX															
FRAME SIZE	MAX. AMPS	STANDARD SIZE DIMENSIONS						PART NUMBER	ONE SIZE LARGER DIMENSIONS						PART NUMBER
		AA	AB	AC	AF	X	Y		AA	AB	AC	AF	X	Y	
XB320ATZ	128	2	16.06	11.50	4.25	9.12	10.62	73646-WE	3	16.06	11.50	4.25	9.12	10.62	73646-WB
	185	3	16.06	11.50	4.25	9.12	10.62	73646-WB	3½	20.25	14.38	6.25	13.50	15.25	74849-RU
	269	3½	20.25	14.38	6.25	13.50	15.25	74849-RU							
XB360ATZ	128	2	20.38	15.81	4.25	9.12	10.62	73646-R	3	20.38	15.81	4.25	9.12	10.62	73646-W
	185	3	20.38	15.81	4.25	9.12	10.62	73646-W	3½	24.56	18.69	6.25	13.50	15.25	74849-X
	269	3½	24.56	18.69	6.25	13.50	15.25	74849-X							

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCHES IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" VARIES +.000,-.001.
(3) "R" VARIES +.000,-.015.
(4) TACHOMETER IS EXPLOSION PROOF U/L LISTED

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2. W-1. W-4. W-5. W-7. OR C-1 MOUNTING IS SPECIFIED

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED. CONSULT FACTORY.

TEFC • XP
Frames XB400ATZ thru XB500ATZ

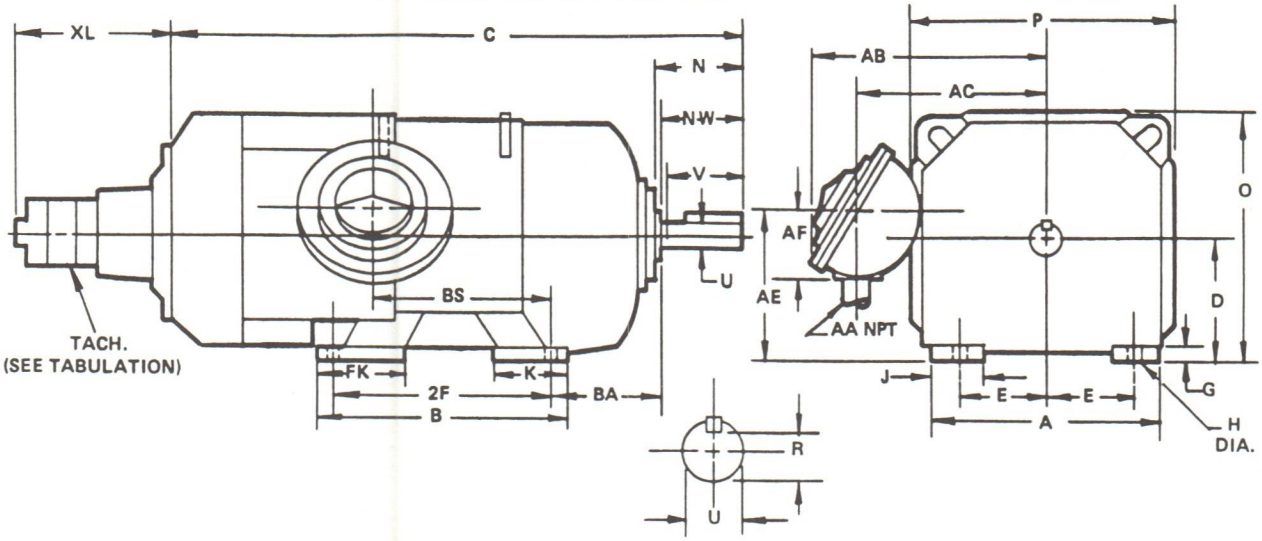
ENCLOSURE: TOTALLY ENCLOSED FAN COOLED

COOLING: FAN COOLED

ACCESSORIES: FLANGE MOUNTED TACHOMETERS

MOUNTING: FOOT

UNDERWRITER'S CLASS I, GROUP C AND D
OR CLASS II GROUPS E, F AND G



DIMENSIONS ARE IN INCHES

FRAME	A	D(1)	E	G	H	J	O	P	BA	AE
XB400ATZ-XUB400ATZ	19.88	10.00	8.00	.81	1.06	3.25	21.25	22.50	6.62	15.25
XB500ATZ-XUB500ATZ	25.00	12.50	10.00	1.00	1.19	3.75	26.00	27.00	8.50	19.25

FRAME	DUTY	C	B	BS	2F	K	FK	DRIVE END SHAFT AND KEY							WT.
								N	N-W	U(2)	V	R(6)	SQ.	LGTH	(LBS.)
XUB408ATZ	BELTED	51.50	22.50	20.75	20.00	6.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2230
XB408ATZ	COUPLING	50.75	22.50	20.75	20.00	6.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2225
XUB409ATZ	BELTED	53.50	24.50	22.75	22.00	6.00	6.00	6.88	6.50	3.250	6.25	2.831	.750	5.00	2515
XB409ATZ	COUPLING	52.75	24.50	22.25	22.00	6.00	6.00	6.12	5.75	2.875	5.50	2.450	.750	4.25	2510
XUB506ATZ	BELTED	56.12	22.50	20.25	20.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3055
XB506ATZ	COUPLING	55.12	22.50	20.25	20.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3030
XUB507ATZ	BELTED	58.12	24.50	22.25	22.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3455
XB507ATZ	COUPLING	57.12	24.50	22.25	22.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3430
XUB508ATZ	BELTED	61.12	27.50	25.25	25.00	6.50	6.50	8.62	8.25	4.125	8.00	3.563	1.000	6.50	3815
XB508ATZ	COUPLING	60.12	27.50	25.25	25.00	6.50	6.50	7.62	7.25	3.625	7.00	3.134	.875	5.75	3790

(1) "D" DIMENSION WILL NOT BE EXCEEDED. SHIMS UP TO .06 INCH IN THICKNESS ARE USUALLY REQUIRED FOR COUPLED OR GEARED MACHINES.
(2) "U" & "FU" VARY +.000 -.001
(3) "R" & "FR" VARY +.000 -.015

TERMINAL BOX LOCATED ON OPPOSITE SIDE WHEN F-2, W-1, W-4, W-5, W-7 OR C-1 MOUNTING IS SPECIFIED.

IF MOUNTING CLEARANCE DETAILS ARE REQUIRED CONSULT FACTORY.

WALL OR OBSTRUCTIONS MUST NOT ENCROACH ON AIR INLET SPACE "FW"

TACH	XL	WT. (LBS.)
BC-42	17.88	25
BC-46	19.12	35

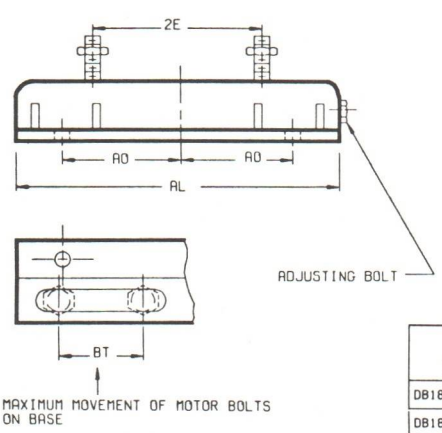
XB400ATZ

TERMINAL BOX	MAX. AMPS	AA	AB	AC	AF
73646-S	172	3	19.00	14.38	4.25
74849-3T	252	4	23.25	17.25	6.25

XB500ATZ

TERMINAL BOX	MAX. AMPS	AA	AB	AC	AF
73646-X	172	3	21.88	17.25	4.25
74849-V	252	4	26.00	20.12	6.25
76842-X	374	5	29.12	21.50	7.00

SLIDE BASES
Frames DB180ATZ thru B280ATZ
Frames B320ATZ thru UB400ATZ



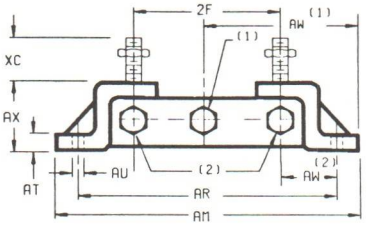


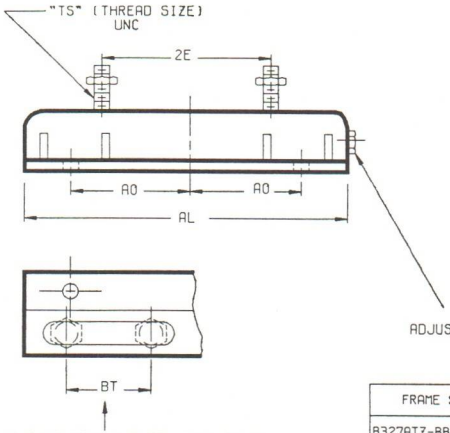
FIG. 1

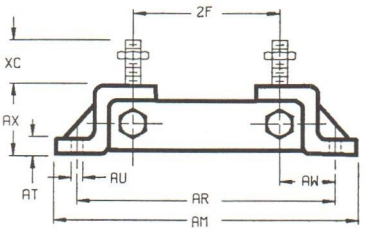
ADJUSTABLE SLIDE BASE
HEAVY DUTY AND STANDARD DUTY
FRAMES
DB1810ATZ THRU B2811ATZ
D/S 609907-4 ● December 4, 1979

DIMENSIONS ARE IN INCHES

FRAME	AL	AM	AX	2E	2F	AO	AR	AU	BT	AT	AW	XC	PART NO.	WT. LBS.
DB1810ATZ(1)	12.75	16.00	1.50	7.50	11.00	4.50	15.00	.50	3.00	.19	8.00	1.19	42384-26-D	15
DB1811ATZ(1)	12.75	17.50	1.50	7.50	12.50	4.50	16.50	.50	3.00	.19	8.00	1.19	42384-26-BP	15
DB1810ATZ	12.75	16.00	1.50	7.50	11.00	4.50	15.00	.50	3.00	.19	2.00	1.19	42384-74-B	16
DB1811ATZ	12.75	17.50	1.50	7.50	12.50	4.50	16.50	.50	3.00	.19	2.00	1.19	42384-26-BE	16
B1811ATZ	12.75	17.50	1.50	7.50	12.50	4.50	16.50	.50	3.00	.19	2.00	1.19	42384-26-BE	16
B1812ATZ	12.75	19.00	1.50	7.50	14.00	4.50	18.00	.50	3.00	.19	2.00	1.19	42384-26-BF	18
B2111ATZ	15.00	19.50	1.75	8.50	14.00	5.25	18.00	.50	3.50	.25	2.00	1.12	42384-26-BG	23
B2112ATZ	15.00	21.50	1.75	8.50	16.00	5.25	20.00	.50	3.50	.25	2.00	1.12	42384-26-BH	25
B2510ATZ	17.75	22.88	2.00	10.00	16.00	6.25	21.00	.62	4.00	.31	2.50	1.25	42384-26-BJ	38
B2511ATZ	17.75	24.88	2.00	10.00	18.00	6.25	23.00	.62	4.00	.31	2.50	1.25	42384-26-BK	40
B2810ATZ	19.75	25.88	2.00	11.00	18.00	7.00	23.50	.62	4.50	.38	2.75	1.50	42384-26-BL	45
B2811ATZ	19.75	27.38	2.00	11.00	20.00	7.00	25.50	.62	4.50	.38	2.75	1.50	42384-26-BM	47

(1) STANDARD DUTY SUPPLIED WITH ONE ADJUSTING BOLT LOCATED ON ℄ OF BASE. FOR DB1810ATZ AND DB1811ATZ FRAMES.
(2) HEAVY DUTY SUPPLIED WITH TWO ADJUSTING BOLTS LOCATED AS SHOWN. FOR B1811ATZ THRU B2811ATZ FRAMES.





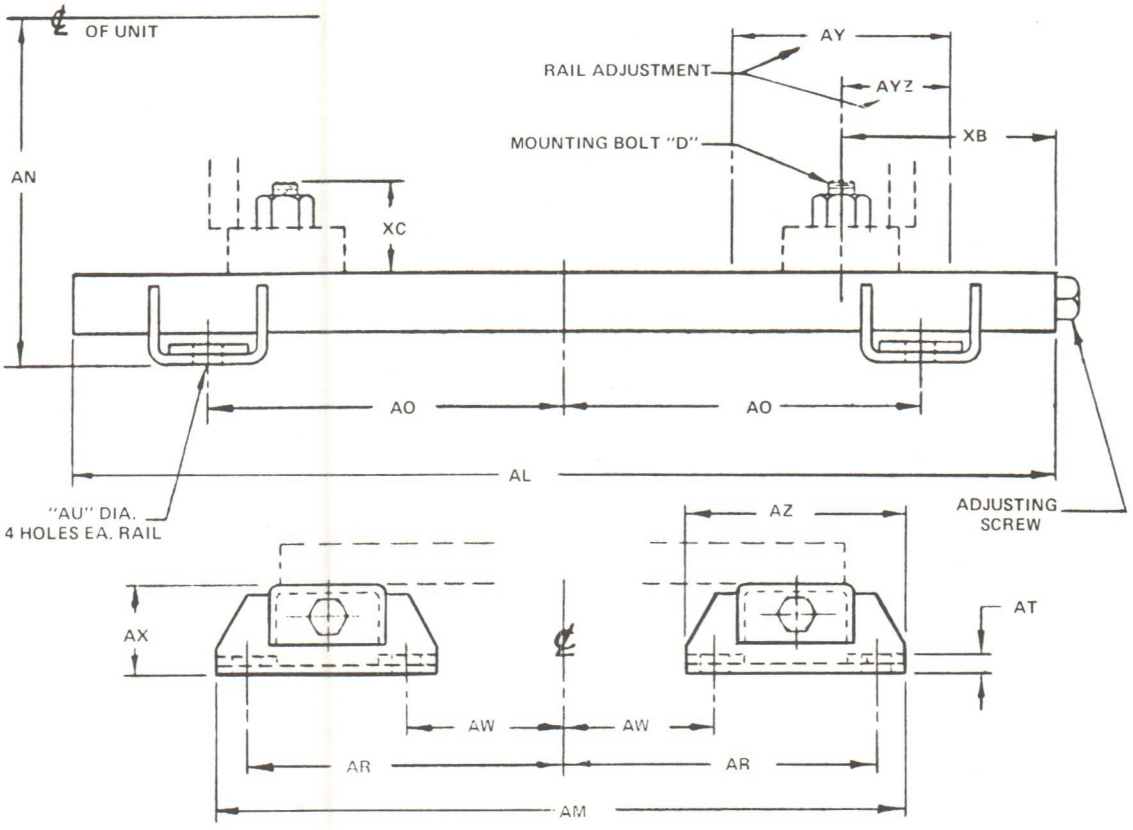
ADJUSTABLE SLIDE BASE
HEAVY DUTY
FRAMES
B320ATZ THRU UB400ATZ
D/S 609907-1 ● January 14, 1983

DIMENSIONS ARE IN INCHES

FRAME SIZE	2E	2F	AL	AM	AO	AR	AT	AU	AW	AX	XC	BT	"TS"	PART NO.	WEIGHT(LBS)
B327ATZ-BB327ATZ	12.50	14.00	22.75	22.75	8.00	20.50	.38	.75	3.25	2.50	1.94	5.25	5/8-11	42384-26AL	56
B328ATZ-CB328ATZ	12.50	16.00	22.75	24.75	8.00	22.50	.38	.75	3.25	2.50	1.94	5.25	5/8-11	42384-26AM	58
B366ATZ-BB366ATZ	14.00	14.00	25.50	23.25	9.00	21.00	.38	.88	3.50	2.50	1.94	6.00	3/4-10	42384-26BN	75
B367ATZ-BB367ATZ	14.00	16.00	25.50	25.25	9.00	23.00	.38	.88	3.50	2.50	1.94	6.00	3/4-10	42384-26AN	77
B368ATZ-BB368ATZ	14.00	18.00	25.50	27.25	9.00	25.00	.38	.88	3.50	2.50	1.94	6.00	3/4-10	42384-26AP	78
B369ATZ-BB369ATZ	14.00	20.00	25.50	29.25	9.00	27.00	.38	.88	3.50	2.50	1.94	6.00	3/4-10	42384-26BA	79
B3610ATZ-BB3610ATZ	14.00	22.00	25.50	31.25	9.00	29.00	.38	.88	3.50	2.50	1.94	6.00	3/4-10	42384-26BB	80
UB408ATZ	16.00	20.00	28.75	30.12	10.00	27.50	.38	1.12	3.75	3.00	2.19	7.00	1-8	42384-26BC	86
UB409ATZ	16.00	22.00	28.75	32.12	10.00	29.50	.38	1.12	3.75	3.00	2.19	7.00	1-8	42384-26BD	87
UB4010ATZ	16.00	25.00	28.75	35.12	10.00	32.50	.38	1.12	3.75	3.00	2.19	7.00	1-8	42384-26BY	90

SLIDE RAILS
Frames UB506ATZ thru B688ATZ

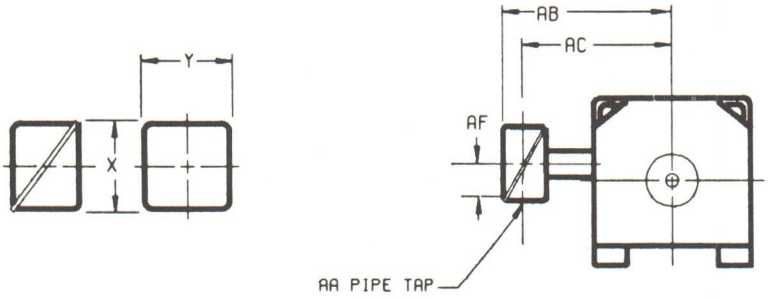
ADJUSTABLE SLIDE RAILS



DIMENSIONS ARE IN INCHES

FRAME	AL	AM	AN	AO	AR	AT	AU	AW	AX	AY	AYZ	XB	AZ	D	XC	RAIL No.	WT. (LBS.)
UB506ATZ	35.00	32.00	16.00	12.50	14.50	.62	1.25	5.50	3.50	8.00	4.00	7.50	12.00	1.12	3.00	42384-5-D	115
UB507ATZ	35.00	34.00	16.00	12.50	15.50	.62	1.25	6.50	3.50	8.00	4.00	7.50	12.00	1.12	3.00	42384-5-D	115
UB508ATZ	35.00	37.00	16.00	12.50	17.00	.62	1.25	8.00	3.50	8.00	4.00	7.50	12.00	1.12	3.00	42384-5-D	115
UB587ATZ	38.75	38.12	18.50	14.50	17.50	.75	1.25	7.50	4.00	8.50	4.25	7.88	13.00	1.38	2.94	42384-5-H	130
UB588ATZ	38.75	41.00	18.50	14.50	19.00	.75	1.25	9.00	4.00	8.50	4.25	7.88	13.00	1.38	2.94	42384-5-H	130
UB589ATZ	38.75	45.00	18.50	14.50	21.00	.75	1.25	11.00	4.00	8.50	4.25	7.88	13.00	1.38	2.94	42384-5-H	130
B686ATZ	42.50	38.75	21.25	13.50	18.00	1.00	1.38	10.00	4.25	9.00	4.50	7.75	10.75	1.38	3.12	42384-5-G	220
B687ATZ	42.50	42.75	21.25	13.50	20.00	1.00	1.38	12.00	4.25	9.00	4.50	7.75	10.75	1.38	3.12	42384-5-G	220
B688ATZ	42.50	46.75	21.25	13.50	22.00	1.00	1.38	14.00	4.25	9.00	4.50	7.75	10.75	1.38	3.12	42384-5-G	220

CONDUIT BOXES
MILL TYPE • CAST IRON XP
Frames B180ATZ thru BB360ATZ



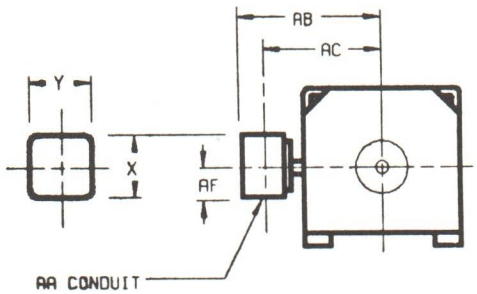
CAST IRON XP TERMINAL BOX DIMENSIONS
STANDARD SIZE AND ONE SIZE LARGER
D/S 609909-1 • May 5, 1978

CAST IRON TERMINAL BOX DIMENSIONS																
FRAME	MAX AMPS	STANDARD SIZE						PART NUMBER	ONE SIZE LARGER							PART NUMBER
		AA	AB	AC	AF	X	Y		AA	AB	AC	AF	X	Y	
B180AT	18	3/4	9.06	6.69	2.50	5.12	5.75	74182-Y	1	9.44	6.88	2.75	5.38	6.19	74182-1-R
	40	1	9.06	6.69	2.50	5.12	5.75	74182-XZ	1 1/2	9.81	7.25	2.75	5.38	6.19	74182-1-T
	96	1 1/2	9.81	7.25	2.75	5.38	6.19	74182-1-T	2	10.44	7.75	3.38	6.50	7.00	73645-U
B210AT	18	3/4	9.94	7.56	2.50	5.12	5.75	74182-Y	1	10.31	7.75	2.75	5.38	6.19	74182-1-R
	40	1	9.94	7.56	2.50	5.12	5.75	74182-XZ	1 1/2	10.69	8.12	2.75	5.38	6.19	74182-1-T
	96	1 1/2	10.69	8.12	2.75	5.38	6.19	74182-1-T	2	11.31	8.62	3.38	6.50	7.00	73645-U
B250AT	18	3/4	10.75	8.75	2.50	5.12	5.75	74182-Y	1	11.50	8.94	2.75	5.38	6.19	74182-1-R
	40	1	10.75	8.75	2.50	5.12	5.75	74182-XZ	1 1/2	11.88	9.31	2.75	5.38	6.19	74182-1-T
	96	1 1/2	11.88	9.31	2.75	5.38	6.19	74182-1-T	2	12.50	9.81	3.38	6.50	7.00	73645-U
	208	2	15.31	10.75	4.25	9.12	10.62	73646-WE	2 1/2	14.81	10.25	4.25	9.12	10.62	73646-WF
B280AT	18	3/4	11.75	9.38	2.50	5.12	5.75	74182-Y	1	12.12	9.56	2.75	5.38	6.19	74182-1-R
	40	1	11.75	9.38	2.50	5.12	5.75	74182-XZ	1 1/2	12.50	9.94	2.75	5.38	6.19	74182-1-T
	96	1 1/2	12.50	9.94	2.75	5.38	6.19	74182-1-T	2	13.12	10.44	3.38	6.50	7.00	73645-U
	208	2	15.06	10.50	4.25	9.12	10.62	73646-WE	2 1/2	14.56	10.00	4.25	9.12	10.62	73646-WF
B320AT	128	2	18.38	13.81	4.25	9.12	10.62	73646-R	3	18.38	13.81	4.25	9.12	10.62	73646-W
	185	3	18.38	13.81	4.25	9.12	10.62	73646-W	4	22.56	16.69	6.25	13.50	15.25	74849-T
	269	4	22.56	16.69	6.25	13.50	15.25	74849-T	5	22.56	16.69	6.25	13.50	15.25	74849-RT
B360AT	128	2	19.38	14.81	4.25	9.12	10.62	73646-R	3	19.38	14.81	4.25	9.12	10.62	73646-W
	185	3	19.38	14.81	4.25	9.12	10.62	73646-W	4	23.56	17.69	6.25	13.50	15.25	74849-T
	269	4	23.56	17.59	6.25	13.50	15.25	74849-T	5	23.56	17.69	6.25	13.50	15.25	74849-RT
	500	5	26.69	19.06	7.00	16.00	17.25	76842-W	6	26.69	19.06	7.00	16.00	17.25	76842-R

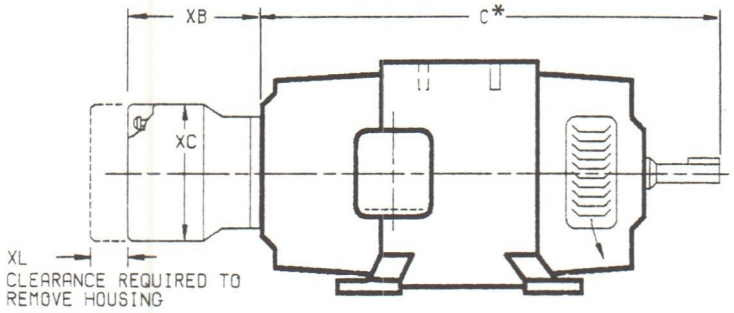
DIMENSIONS ARE IN INCHES. SEE SHEET 2 FOR METRIC DIMENSIONS

MILL TYPE TERMINAL BOX DIMENSIONS								
FRAME SIZE	MAX. AMPS	STANDARD SIZE						PART NUMBER
		AA	AB	AC	AF	X	Y	
B180AT	18	3/4	9.69	7.06	3.50	7.00	7.00	701460-2-R
	40	1	9.69	7.06	3.50	7.00	7.00	701460-2-T
	96	1-1/2	9.69	7.06	3.50	7.00	7.00	701460-2-RD
B210AT	18	3/4	10.50	7.88	3.50	7.00	7.00	701460-2-R
	40	1	10.50	7.88	3.50	7.00	7.00	701460-2-T
	96	1-1/2	10.50	7.88	3.50	7.00	7.00	701460-2-RD
B250AT	18	3/4	11.56	8.94	3.50	7.00	7.00	701460-2-R
	40	1	11.56	8.94	3.50	7.00	7.00	701460-2-T
	96	1-1/2	11.56	8.94	3.50	7.00	7.00	701460-2-RD
	208	2	11.56	8.94	3.50	7.00	7.00	701460-2-RB
B280AT	18	3/4	12.25	9.62	3.50	7.00	7.00	701460-2-R
	40	1	12.25	9.62	3.50	7.00	7.00	701460-2-T
	96	1-1/2	12.25	9.62	3.50	7.00	7.00	701460-2-RD
	208	2	12.25	9.62	3.50	7.00	7.00	701460-2-RB
B320AT	128	2	16.19	12.69	6.00	12.00	15.00	701461-7-RY
	185	3	16.19	12.69	6.00	12.00	15.00	701461-7-RX
	269	4	16.19	12.69	6.00	12.00	15.00	701461-7-RZ
B360AT	128	2	17.19	13.69	6.00	12.00	15.00	701461-7-RY
	185	3	17.19	13.69	6.00	12.00	15.00	701461-7-RX
	269	4	17.19	13.69	6.00	12.00	15.00	701461-7-RZ
	500	5	17.19	13.69	6.00	12.00	15.00	701461-7-RW

MILL TYPE TERMINAL BOX DIMENSIONS
STANDARD SIZE
D/S 609902-2 • November 18, 1978



BRAKES
Frames B180ATZ thru B400ATZ



BRAKES MOUNTED ON ALL ENCLOSURES EXCEPT TEFC AND TEAO INLINE

FRAME DIAMETER	BRAKE MODEL NUMBER	BRAKE TORQUE RATING LB.-FT.	XB	XL	XC	WT. LBS.
B180ATZ AND B210ATZ	87000	10	8.38	4.75	9.38	55
		15	8.38	4.75	9.38	55
		25	8.38	4.75	9.38	55
		35	8.38	4.75	9.38	60
		50	8.88	4.75	9.38	60
		75	8.88	4.75	9.38	65
		105	9.38	4.75	9.38	70
B250ATZ AND B280ATZ	87000	10	8.38	4.75	9.38	55
		15	8.38	4.75	9.38	55
		25	8.38	4.75	9.38	55
		35	8.38	4.75	9.38	60
		50	8.88	4.75	9.38	60
		75	8.88	4.75	9.38	65
		105	9.38	4.75	9.38	70
B320ATZ AND B360ATZ	87000	10	8.38	6.0	9.38	55
		15	8.38	6.0	9.38	55
		25	8.38	6.0	9.38	55
		35	8.38	6.0	9.38	60
		50	8.88	6.0	9.38	60
		75	8.88	6.0	9.38	65
		105	9.38	6.0	9.38	70
B250ATZ AND B280ATZ	82000	125	13.62	6.0	15.75	205
		175	13.62	6.0	15.75	205
		230	13.62	6.0	15.75	210
B320ATZ AND B360ATZ	82000	125	13.62	6.0	15.75	205
		175	13.62	6.0	15.75	205
		230	13.62	6.0	15.75	210
		330	13.62	6.0	15.75	210
B400ATZ	82000	125	13.88	6.0	15.75	205
		175	13.88	6.0	15.75	205
		230	13.88	6.0	15.75	210
		330	13.88	6.0	15.75	210
		440	15.12	6.0	15.75	230
		550	15.12	6.0	15.75	240

*Refer to Standard D/S

D-C MOTOR LITERATURE INDEX

RELIANCE ELECTRIC

BULLETINS/DATA SHEETS

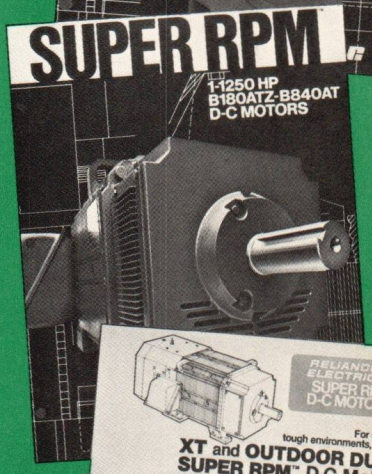
C-2519	SUPER RPM D-C Motors (1–1250 HP)
C-2525	SUPER RPM Heavy Duty D-C Motors (700–3000 HP)
C-2526	SUPER RPM XT and Outdoor Duty
C-2527	SDR 13 Drilling Rig D-C Motors
C-2529	SUPER RPM Low Horsepower Motors (1½–5 HP)
C-2532	Mass Transit Air Compressor D-C Motors
C-2535	Wound Field 56 Frame Motors (¼–1½ HP)
C-2536	Permanent Magnet Motors (⅛–2 HP)
C-2528	W 30 Electric Wheel
C-2537	W 40 Electric Wheel

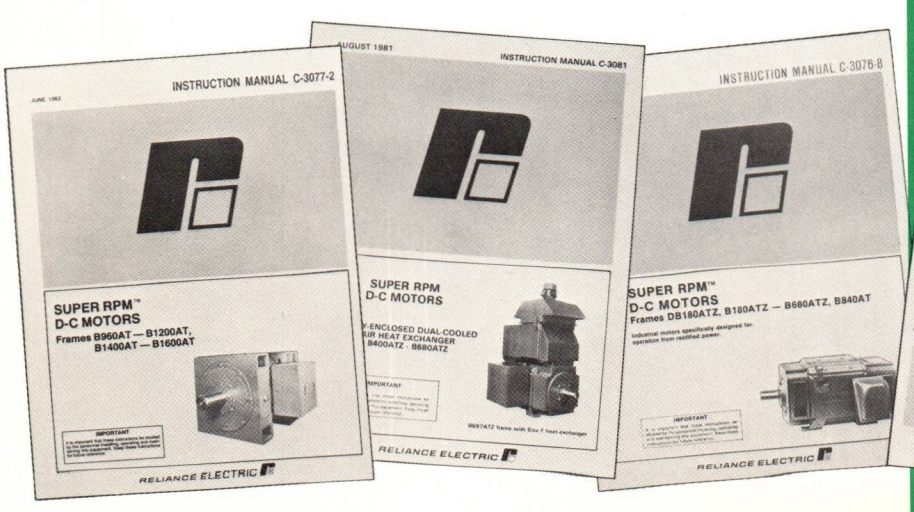
INSTRUCTION MANUALS

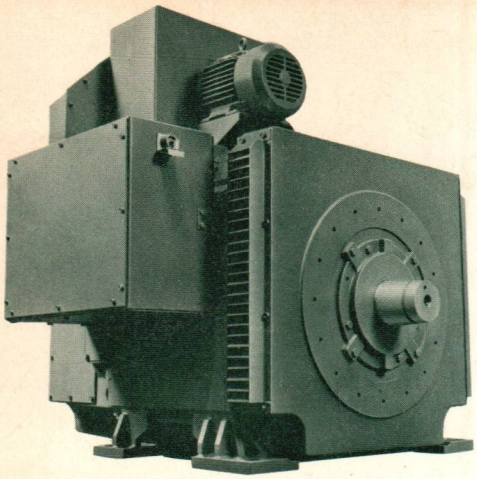
C-3055	Explosion-Proof Frames X180A thru X280A.
C-3062	Instructions for Installing Motor Mounted Blower Kits on Frames DB180ATZ, B180ATZ thru B400ATZ.
C-3073	D-C 48, 56 Frames
C-3076	SUPER RPM Frames DB180ATZ, B180ATZ-B680ATZ, B840AT.
C-3077	SUPER RPM Frames B960AT-B1200AT-B1400AT-B1600AT.
C-3078	SUPER RPM Totally-Enclosed Dual-Cooled Air-to-Water Frames B400ATZ-B1600AT.
C-3079	SDR-13 Drilling Rig D-C Motors
C-3080	SUPER RPM Frames DB160ATZ, DB180ATCZ and DB180ATY
C-3081	SUPER RPM Totally Enclosed Dual-Cooled Air-to-Air. Frames B400ATZ-B1600AT

TACHOMETER INSTRUCTION MANUALS
(Installation, Operation, and Maintenance)

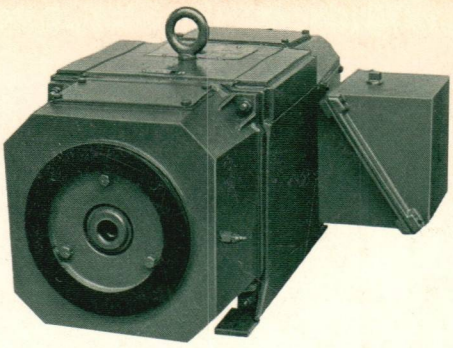
P-3010	Types RE-210, BC-42, BC-46, and 5PY Tachometers
P-3011	Type RE-045F A-C Tachometer
P-3016	Types RD-11, RD-12 Pulse Generators
P-3017	Type RD-32 Pulse Generator
P-3020	Type RD-62 Pulse Generator



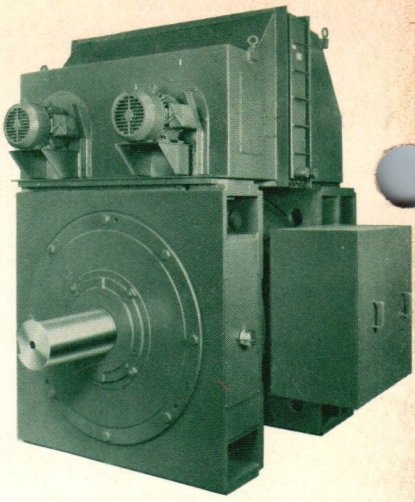




DRILL RIG MOTORS—Provide dependable power for efficient drilling operations. The SDR Series of Reliance drill rig motors—SDR 13, SDR 8, SDR 4—are designed and built for the rigors of drill site or offshore platform.

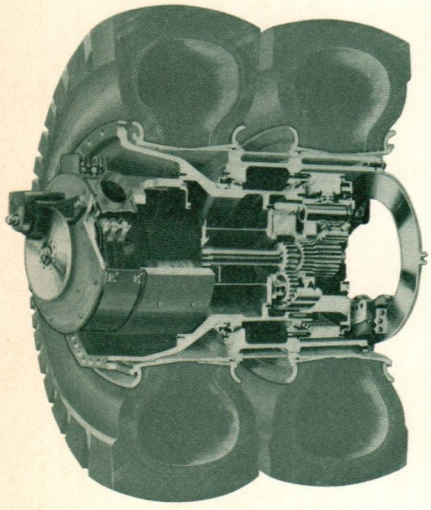


MASS TRANSIT MOTORS—Designed for mass transit and railroad compressors, fans and pumps to withstand severe environmental conditions and high peak impulse voltages. Shaft and mounting custom designed for the project.



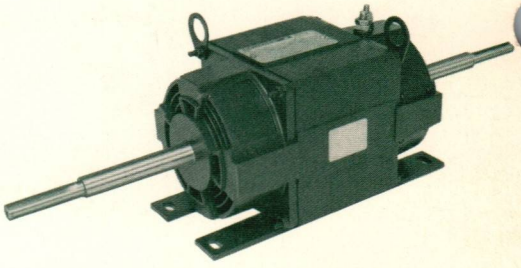
MARINE MOTORS—Specifically designed for the stringent application requirements of the marine industry including propulsion motors, bow thrusters and auxiliary motors. Ratings through 3000 HP meet the requirements of IEEE 45, U. S. Coast Guard Specifications, American Bureau of Shipping and U. S. Maritime Administration. Can also be specified to meet Det Norske Veritas and other marine specifications.

Reliance Electric INDUSTRY SPECIAL MOTORS Designed For SPECIFIC APPLICATIONS

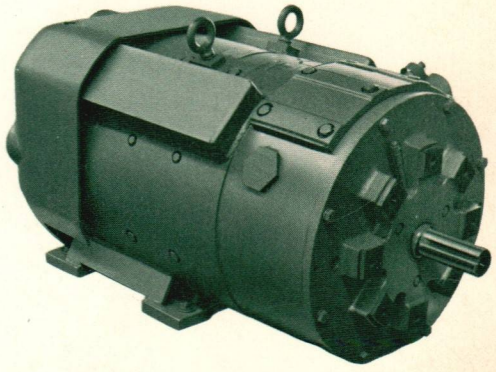


GENERATORS AND WHEEL DRIVE MOTORS FOR SURFACE MINING APPLICATIONS—Complete traction system including generator and motors for electric wheel drives on off-the-road vehicles. Retrofit kits are available for 120 ton and 170 ton class haulage vehicles—complete with plug-in D-C traction motor, self aligning double planetary gear reducer and wheel speed disc brakes.

LOW VOLTAGE MOTORS—Reliance low voltage D-C motors were developed specifically to serve the transportation industry. These rigid, dependable motors are available in either TENV or guarded construction. Ratings through 2 HP available for applications requiring reliable low voltage permanent magnet motors with improved brush life.



MINE MOTORS—MSHA certified explosion-proof motors built to meet the stringent requirements of CFR-30 PART 18. Series wound traction motors and compound wound pump motors for use on underground mobile equipment. Rugged construction combined with a special mine motor insulation system provides maximum motor performance in severe operating conditions.



Reliance Electric Company / 24701 Euclid Avenue / Cleveland, Ohio 44117

RELIANCE ELECTRIC

Printed in U.S.A.

C-401

78320M